A Rorschach Study of the Development of Personality Structure in White and Negro Children in a Southeastern Community

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By

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A RORSCHACH STUDY OF THE DEVELOPMENT OF PERSONALITY STRUCTURE IN WHITE AND NEGRO CHILDREN IN A SOUTHEASTERN COMMUNITY

CHAPTER I

INTRODUCTION

A. The Personality

The concept of maturation emphasizes the functional unity of the total organism in a sequential pattern. As growth goes on, learning is possible, and the total pattern expands. Learning and conditioning take place upon a maturational substratum. Structural basis is primary, and on this basis of physiology and maturation the superstructure of learning and personality development unfold within the framework of a total pattern.

At times the organism seems to retreat from a level of maturity it has attained, and does not advance in a straight line form. During these periods of fluctuation and reorientation of the organism, the personality dynamics as part of the total behavior pattern follow the same theme of variation. These periods are followed by those of reorganization and progressive patterning by which structure and function are jointly matured. In a discussion of the developmental point of view with regard to projective techniques, Ames et al. (2) write:

> The basic and lawful development of intellectual and emotional functions appears in broadest outline to remain fairly constant from child to child, though it seems to be at every age inflected and colored by the individuality of each child . . . . If it is

true that all aspects of the child's behavior, including the higher psychic manifestations, are subject to the laws of development, then it should be useful to apply the developmental approach in the field of projective techniques.

During the growth process of the organism, the general pattern of the species is unfolded, together with the individual factors which contribute to the unique status of the particular organism. Against the more general canvas of ontogenesis and integration, we see the distinguishing colors of life's experiences painting the dynamics of idiosyncratic personality.

The world which belongs to each individual, the totality of his experience and his interpretation of this experience, is his phenomenal field, to be understood by the individual as a unitary whole. In reacting to this field as interpreted, the organism behaves in a manner which will maintain itself in existence, satisfy needs as experienced, and replace threat with enhancement, in order to feel comfortable.

In the field organization of self the organism perceives in terms of the relationship of the percept to the basic needs. The more intimately a percept is related to the self-concept, the greater is its potential for enhancement, or threat, to self. Either tends to narrow the field, and the process that goes on is a process of differentiation and change in figure-ground relationships. We can equate differentiation with learning, and the subsequent changes in personality dynamics may be studied, by means of the Rorschach test, at varying levels of intelligence, age, and cultural background.

In order to give insight into the dynamics of personality, projective techniques have received increasing attention and study. Bell (8) states that the creative contributions of Freud were a major force in shaping the theories underlying the projective approach. This was followed by the Gestalt emphasis upon the totality of the personality and the interest in studies of perception which involved projective techniques. The approach to the study of personality through projective techniques is global, as opposed to the atomistic concept with its emphasis upon individual traits. The dimensions or aspects of the personality are considered within the totality of their framework and not as disparate units. The qualitative and quantitative fluctuations of any of the dimensions change the total personality picture, and these variations in turn, have meaning only when considered in the total context.

Projective techniques share a common methodology in that a stimulus which does not reveal the real purpose of the examiner is presented to the subject. The stimulus is relatively unstructured which makes possible a wide range of individual responses. This also means that responses to a projective test are less easy to treat quantitatively with statistical methods.

The structured nature of personality interacting with the field in which the organism is operating, is revealed through projective techniques. The dynamic modifications of personality are evidenced and the unconscious areas are projected together with the surface traits in such a manner as to make possible the exploration of the strata of personality structure.

B. The Rorschach Test

Since the publication of Rorschach's Psychodiagnostik (38) in 1921, the interest and attention the test has received have created so considerable a literature that it is presumed that an exposition of the test material is unnecessary.

The scoring method used in this study is that of Beck (4) and for a description of the technical detail concerned, the reader is referred to the source mentioned. However, in determining the good or poor form quality of a response (the F plus or F minus scoring category) the frequency tables prepared by Hertz (18) for scoring responses to the Rorschach test were used as supplemental material.

Grassi (16) has suggested that the use of the graphic Rorschach procedure will provide a simplified objective method of scoring individual Rorschach responses. The method is of little value with normal subject as used in this study, but for children who are unable to express themselves clearly it would clarify otherwise unscorable responses.

The interpretation of the scoring categories in this study follows, in general, the delineation of those factors by Beck (5). While some differences as to the interpretation of scoring categories do exist, there is general agreement among the most prominent proponents of the technique as to the psychological meaning of the test factors. In the section of this study reserved for statistical treatment of the data (p. 19) there is to be found additional information pertinent to this topic.

The work on Child Rorschach Responses by Ames and others (2) contains excellent summaries and tables of data for studies of validity, reliability, and the normative approach for the Rorschach test with children. The validation studies using matching techniques are summarized in addition to other validation data. Reliability studies using the split-half method are presented, as well as reliability studies using the test-retest method. The value of norms for Rorschach work is discussed and the normative studies for children are presented with such information as to the investigator, yearly ages, variables studied, population, and intelligence. The authors point out that the aspect of normative study with the Rorschach test for children has been quite generally neglected. In connection with the normative aspects of children's Rorschachs one might reasonably expect that norms would show variation not only with age but also with racial, cultural, and environmental backgrounds. The lack of adequate norms has seriously hampered the use of the Rorschach Test as a means of studying the effects of genetic development, environment, and cultural background upon the growth of personality.

An interesting approach to the study of the relationship between factors on the Wechsler-Bellevue test and the Rorschach test having common psychological rationale was published by Holzberg and Bellmont (20). Statistical relationships and their level of significance between the Rorschach factors and the subtests on the Wechsler-Bellevue test are presented.

In a study of profile patterning of the Rorschach test, Hales (17) is endeavoring to develop a standard score profile chart for recording individual profiles. He plans to use these profiles to investigate separate scoring categories or factors in the profiles of normals and abnormals and attempt to evaluate their significance and probable psychological meaning in relation to other factors in the pattern. However, his T-tables can be used only when the Buhler and Lefever scoring methods have been followed.

Swift (41) studied the reliability of Rorschach scoring categories with pre-school children by means of the retest method. Her subjects were of an average chronological age of four and one-half years. She used a fourteen day retest, thirty day retest, ten month retest period, and a parallel series. In this study some of the factors making for lowered reliabilities with pre-school children were the small number of responses given, low frequency of occurrence of many of the response categories, and the variability of interest and attention spans.

Schafer (40) mentions a proposition peculiarly pertinent to the consideration of the Rorschach test. He points out that a test response is not a score. In order to facilitate comparison we design an abstraction we designate as a score, but these scores never communicate the responses in full.

Rorschach and Bernreuter data were compared by Wells (43), who finds that the Bernreuter data agree favorably with the Rorschach appraisals. He found clearest agreement to be in the area of intellectual.

In an experiment designed to test the basic hypothesis that perception differs with personality McReynolds (33) offers evidence which seems to confirm this belief. Differences in the means for the various samples were significant at the one per cent level.

Neff and Lidz (35) studied Rorschach patterns of normal subjects of graded intelligence. They found that the effect of differential intelligence in enlisted Army personnel twenty-eight years of age was not cumulative or linear with regard to Rorschach factors. Their group split into two groups--the superior on one hand, and the average and inferior on the other. Productivity of the Rorschach factors studied did not increase in a linear manner from inferior to superior.

The thinking of various authors on certain Rorschach scoring categories such as W, D, Dd, A, P, M, Y, and number of responses was summarized by McCandess (31). He was interested in the Rorschach as a predictor of academic success, and used subjects similar in quantitative characteristics yet so different in academic success. The author was interested in the possibility of distinguishing personality characteristics which might explain the differences. In his analysis of the data statistical significance was not obtained, though expected trends appeared according to prediction.

A factor analysis of Rorschach scoring categories by Wittenborn (47) seemed to warrant the conclusions that factorial composition of the human movement response category is distinctly different from the composition of color-form and pure color categories. Also, the factorial composition of form-color category is different from the color-form was

more similar psychologically to the factorial composition of human movement, than to other color response categories.

In another study on the internal consistency of Rorschach scoring categories, Wittenborn (46) reports that all of the responses falling in a given category are similar in some behavioral respect. Also that the psychological meaning of responses falling in a given category is different from responses placed in other categories. The human movement responses were regarded as comprising functionally similar behavioral elements.

The question of whether organizational activity on the Rorschach can be used as an index of intelligence was investigated by Wilson and Blake (45). They concluded that the use of weighted "Z" scores adds little more than can be had simply by applying the organizational criteria—that is, no advantage is gained by use of different values of "Z" for individual responses. This finding is at present a controversial one and requires additional study using some external measure applied over a wide range of intelligence.

In a study using the group Rorschach on 228 college students, Altus (1) tried out approximately seventy-five variables and reports that the "M" function was the most valid and reliable. As a measure of intelligence at the college level "M" appears to be as good an indication of intelligence as any combination of quantifiable Rorschach aspects, the author concludes.

The article "Further Notes on Rorschach and Case History in Harvard National Scholars" by Wells (44) points out that in this group

there was a comparative independence of intellect and response number. Spread in response patterns presented by these cases is so wide as to make any single pattern very much of an artifact. W per cent, it was concluded, is too much a function of response number to carry much weight of itself.

An interesting study by Gibby (14) was done on the stability of certain Rorschach variables under conditions of experimentally induced sets. He concluded that the more adaptable the defense network, the less stable are the intellectual variables. An individual may erect a conscious or unconscious facade which influences test results. Changes in W and D and Dd per cent variables in a Rorschach repeated for purpose of evaluating progress in psychotherapy may not be entirely attributed to the effects of therapy.

In the use of the Rorschach with adults, Hunter (21) studied responses of comporable whites and Negroes. These subjects were from a population of Manhattan. No accurate estimate of the amount of white blood in Negro subjects was made. This study dealt chiefly with the "experience-balance" to see if it would evidence a difference between two races. The white group was found to be more introversive than the Negro.

Thompson (42) studied personality factors characterizing the achieving of college students as revealed by the Rorschach test. She suggests that the achieving student has an introversive Rorschach pattern with color minimized and M maximized. Also, there was a relatively

greater emphasis on achromatic cards. A pattern of items which would generally be interpreted as good adjustment was present in the achieving student.

C. Previous Uses of the Rorschach Test in Studies of Children.

The Rorschach test has received relatively little attention as a psychological tool to be used in the study of children. The norms available are for use with adults, and the judging of the performance of children in terms of the adult norm is an unsatisfactory procedure. Children who on the basis of other data are known to be superior gave Rorschach performances that are quite pathological when interpreted by adult standards. This seems to have been a major factor in regarding the Rorschach as a useful tool in exploring the personality of children.

Kirkpatrick (in 1900) was the first to use ink blots with children. Persons, in 1917, studied children's interpretations of ink blots and concluded that boys and girls differ in content of their responses. H. Behn-Eschenburg used the system with boys thirteen years of age, in 1921. In 1915, Loephe published his work on the value of this technique with students of ten and thirteen years of age. At the Fourth International Conference on Psicotecnica, Juarros and Soriano presented their work on the Rorschach method with abnormal children. In the same year Veit published a work on the application of the Rorschach with post-encephalitics.

Juarros and Soriano (24) also published a study in which they compared the results they obtained with normal and abnormal children.

In a study in 1934, of six levels of intelligence over an age range from seven to fourteen years, Kerr (26) suggests that a "panoramic" view of a subject's temperament as a whole is an excellent method of evaluating intelligence and temperament together.

Jacobsen (23) evaluated Beck's Rorschach norms as applied to children in a publication in 1938. Most of her children were problem children, and ranged in age from five to twenty-three years. She concludes that Beck's scoring was the best method for use in the clinic. Also, the differences in Z scores in her study and Beck's are probably due to the low intelligence mean for her group.

The sex difference in the perceptual attitude of children was studied by Rose and Stavrianos (39) and published in 1943. These authors used the Rorschach test with boys and girls from five through eleven years of age. It was reported that after seven years of age boys tend to improve the quality of the W response, whereas girls tend to shift toward well defined smaller areas of the blot.

In Bochner and Halpern's (9) book, Chapter XI is devoted to children's records. They discuss their findings for F plus per cent, C (and modulations), M, Y, W, D, Dd, and A per cent. The findings in this study, as well as the results in several of the most significant studies for the present research, will be compared with the present writer's findings in a subsequent section of this study.

In a review of personality diagnosis in childhood, Klopfer (27) discusses the use of the Rorschach test with children. The possible value of the Rorschach for children as young as two years is presented.

As children approach puberty, adult standards of evaluation become more applicable.

Ranzoni (37) studied a normal adolescent population for "card pull," or the properties of the ink blot which seem to predispose the subject to the use of scoring variables. He presents tables for twelve, fourteen, and sixteen year olds showing the per cent of total responses represented by each scoring category (W, D, Dd, etc.).

Using preschool children at the four, five, and six year levels, McLeod (32) found that the early arbitrary and confabulatory responses drop out rapidly. With increasing age there is a decrease of vagueness and concomitant increase of elaboration and differentiation.

The genetic aspect of some of the Rorschach factors were presented by Beck and Rabin (7) in a paper in 1950. Normal children between the ages of six and fourteen from two grade schools in Chicago were used. Comparing percentages of W, E, and Ed, no significant changes in relationship were found to occur between these age levels. Additional findings from this paper will be used in a subsequent section of this present study for purposes of comparison.

Eight-year-old children were used in a normative study of Rorschach responses by Carlson (10). The per cent of frequencies for the main responses were computed and means and standard deviations were computed for the group. On the basis of results using one hundred subjects, he concluded that D area was most frequently chosen, with W as second. His additional findings will be reviewed later.

The book by Ames et al. (2) has already served as a reference for this present study, and the findings of these authors will be compared with the findings in this writer's work. It is well to point out, however, that the population samples of the Ames book are composed of children of above average intelligence.

Irving (22) investigated quantitatively the clinical notion of the limited upheaval in psychoneurotic adjustment through an analysis of their perceptual responses in comparison with those of children and normal adults. He concludes that in terms of its genetic parallels the perceptual activity of psychoneurotics is intermediate and overlapping in quality between the ten-year-olds and the normal adults, a level at which the clear prominence of mature features in perception is established.

Rorschach reactions in early childhood were published by Klopfer and Margulies (28) in the Rorschach Research Exchange. The two hundred and five children were from two to seven years of age, and the records were collected from various nurseries. Ninety per cent of the children are of superior intelligence. Their tables of results will be compared later. The use of "magic repetition" by children at an early age was discussed, and early confabulation noted as a step forward.

The manner of mental approach for six and eight-year-old children as revealed by the Rorschach was studied by Hertz and Ebert (19). Here too, the group was superior in intelligence. In using Klopfer's "cut-off W" they got a greater number of W responses than would be scored with the Beck system. Their results will be used comparatively in a

later section of this study. In general they found that eight-year-old children show a greater ability to analyze the situation into obvious and essential features than do the six-year-old children.

Ford published a monograph on the Rorschach test with children, and here again the groups were composed of superior children.

References to children's responses occur in The Rorschach Technique by Klopfer and Kelley, which was published in 1942.

Beck (5) discusses the phases of emotional growth as related to C, CF, FC, and F minus responses.

Paulsen (36) studied the Rorschachs of school beginners in a public school in Manhattan. Three psychologists gave the tests to eighty-two children from five years to seven years of age. She comments that the problem of scoring is difficult with young children because of their immaturity and vagueness, and the fact that they often will not stay with the inquiry long enough for satisfactory explanations. Doubt is also expressed about the reliability of scoring because of these factors. The Klopfer scoring method was used which is to be considered when comparing it with studies using the Beck system. The trends found in this study will be considered in a later section of the present study.

The Rorschach characteristics of institution children were reported by Goldfarb and Klopfer (15). The deleterious effects on personality of extreme psychological deprivation of infants was hypothesized and it was suggested that these characteristics would be revealed by the Rorschach test. Quantitative Rorschach results are

discussed in this publication, and it is of interest to note that the institution group showed an unusual deficiency in quality of perception and organization of the perceptual material. Greater unevenness of response and a greater proportion of F minus was present. Passivity is heightened and a greater trend toward the bizarre was manifest.

Rorschach records of preschool children were examined by Kay and Vorhaus (25) in an attempt to ascertain the development of certain cognitive factors. The records were collected by other workers, except for thirty-three of the 138 used. The authors believe the developmental pattern becomes clearer in the comparisons of percentages for the factors so that relative changes can be noted.

Ledwith (29) studied the performance of six-year-old children on the Rorschach test using subjects in the Pittsburgh area. Her group of 160 subjects gave 2,406 responses which were analyzed from the four approaches: location, determinant, content, and originality. She concluded that the Rorschach test is applicable to six-year-old children. Children give a smaller number of responses and a larger percentage of W responses than adults. At this age CF was predominant over FC, and there was a large proportion of FC to M. Her findings will be compared with some of the results of the present study.

D. Differences in Adult and Child Rorschach Records.

After the first attempts with the Rorschach used with children, interest in this area waned. There were, as has been mentioned, many reasons which prejudiced the early workers against its use with children. The norms for adults had undergone considerable investigation, and in

general, there was agreement on these major factors. Children's records varied greatly in the number of responses, as a function of age. The major determinants in many cases seemed to yield pathological protocols, yet the children actually were not pathological. The F plus per cent was seldom in the normal range of adult standards. Rejections multiplied, as did contaminations, confabulations, and uneven sequence. W appeared with startling frequency and caused a spurious Z to soar. The attention span of the child was said to be inadequate, and the apparent confusion gave rise to the opinion that the Rorschach was unsuitable for children.

To add to the difficulties, the test was used with superior children, or abnormal children. The samples were small, or not adequately described, and frequently the statistical procedures were not suitable for the problem at hand. Many of the studies used group Rorschach procedures which are not at all the same. Records were borrowed from nursery schools and clinics and comparisons made. Authors varied the manner of presentation, sequence of free association, and inquiry, testing the limits, and other technical considerations.

Kay and Vorhaus (25) write that in early childhood certain types of Rorschach responses are found which, from an adult point of view, would be considered irrational and highly inaccurate. They state that it would probably be more accurate to call them prerational. These responses are noticed to decrease from year to year as the child develops. The authors cite other suggestions that some of the inaccurate responses have been called "pseudo psychotic," and appear in records of children up to the age of seven years, after which they become extremely rare.

To quote:

> In the light of these findings it would seem probable that further research on young children would give additional information on these problems of ego-centricity and expression of limited concepts which would add to our understanding both of development in terms of Rorschach theory and of the psychology of children's thought.

So little is really known about learning that we need information from as many sources as possible. The Rorschach test should be able to contribute material to this general investigation. The importance of motivation and personality dynamics in learning are major dimensions in this problem. The conditions which serve to motivate adults and children, though alike in some respects, are sufficiently different to warrant separate investigation. The development of neuromuscular mechanisms continues at a rapid rate during childhood, and especially during the early years. Learning is dependent upon these mechanisms, and because of the considerable difference in growth we may expect the process of learning in children and adults to differ basically. So, too, we can expect the Rorschach protocols of children and adults to differ basically, as a genetic differential is operant.

A basic postulate of Lewin's (11) concept of the "life space" is that during development an increasing differentiation of the "life space" occurs. As the child develops, the degree of differentiation of the "life space" into levels of reality and unreality continues until the level or degree characteristic of the adult is reached. By unreality is meant the fears and wishes projected into the future, and by reality is meant that which is expected. The psychological milieu, physiological needs and drives, as well as the external environment contribute to the

increasing differentiation of the field. We can expect, therefore, that the perceptual processes will change with increased differentiation, and these changes will be reflected in the Rorschach responses.

The accounts of the differentiation of emotional responses follow a similar emergent pattern--Jersild (11). There exists the need for studies which contribute to the understanding of developing emotional dimensions of the child's personality and their modification through interaction with the environmental forces. The Rorschach test is especially suited to this problem in research.

Environment and the cultural and societal forces exert tremendous pressures on the developing organism. Beyond a certain level of educational advance, increments in training will not be accompanied by corresponding increments in mental test scores. In groups that are relatively homogeneous as to education, wide differences occur in test performance which are both genetic and environmental in their origin. We might expect differences to occur in Rorschach records of two different races in the same geographic area when the backgrounds are widely divergent and one of these races assumes a dominant role in the culture.

At each age level differences in intelligence are reflected in the Rorschach records, and intelligent children at the older age levels will tend to produce responses that are more nearly like adult records qualitatively.

E. Difficulties Encountered in Statistical Treatment of Rorschach Data.

In an effort to assess the difficulties encountered in statistical treatment of the Rorschach data, the literature pertinent to this

aspect of the test was examined and perhaps the most representative studies are presented in the following paragraphs. The overlap between this general topic and that of validity and reliability studies is considerable, as has been mentioned previously.

Possibly the most searching analysis of statistical methods applied to Rorschach scores is that published by Cronbach (13) in 1949. In this publication the author states that probably ninety per cent of the conclusions of statistical Rorschach studies are unsubstantiated because they are based on unwise analysis. The uniqueness of the Rorschach test introduces problems not ordinarily encountered, and statistical methods adequate for the analysis of data peculiar to this type of test have still to be fully developed. In the treatment of data making use of dichotomized Rorschach ratings, the usefulness of the chi square technique is noted, keeping in mind that it is important to apply corrections when the number of cases is less than fifty.

In comparing the total number of responses Cronbach points out that in the event boys, for example, are being compared with girls, the use of chi square would err in that these would not be independent events--since some F responses were made by the same person. Here the t-test should have been applied to the means of the groups. Since different methods of analysis lead to different results, it is important to decide between comparisons of means and medians or between the chi square technique and the t-test. As Cronbach says:

> The difficulties which make choice of procedures an important problem arise from three causes: the skewness of Rorschach scores, the complications introduced by ratio scores, and the dependence of Rorschach scores on the total number of responses.

No assumption about scale units is made in procedures based on counting of frequencies, and the use of the median recommends itself in dealing with skewed distributions of the Rorschach test. Cronbach suggests that the best procedure to test the significance of a difference between two groups is to make a cut at some score and use the chi square to compare the number of cases in each group falling beyond the cut. He points out that the use of the cutting score has additional merit in that tests for differences between groups in the high and low directions can be made.

Another fallacy is the comparison of groups for W, D, Dd, etc., without controlling the response factor. If the groups being studied differ in response, they will also differ in the number of W, D, Dd, etc. The method used to control this most often is to compute the percentages of factors (W, D, Dd) in each group and compare these results. Cronbach points out the statistical difficulties involved, and also the fact that the demand for independence from responses still has not been satisfied by this approach. One method suggested by Cronbach is to plot the variable against response for the total sample and draw a line fitting the medians of the columns (this may be done freehand). The proportion of cases in each group falling above the line of medians may be compared by chi square.

The problem of ratios is perhaps the most difficult of all, and Cronbach warns that the issue of skewness must be kept in mind and procedures leading to a chi square test are to be recommended. He points out that at present there is no practical statistical procedure for

studying the complex intercorrelations of scores which the clinician depends on in his interpretation of Rorschach patterns. Cronbach's pattern tabulation method can be used to consider hypotheses not involving more than three scores at once.

The use of multiple correlation scores has been examined by Cronbach and seems to be less than promising in use with the Rorschach technique. Rank correlation, or correlation of normalized scores may be more suitable for the Rorschach than product-moment correlation.

Before presenting the thinking of Beck which is related to statistical work with the Rorschach test, mention should be made of the extensive bibliography of the Cronbach publication.

In understanding the logic underlying statistical method to try out the test variables the cogent remarks by Beck (7) are quoted:

> The whole human cortex is a complex of many activities . . . . A scientific logic and method focusing on only one operation, or even a cluster of operations, is not applicable . . . . The core of the personality logic is that no personality variable has any meaning in isolation from others . . . . The logic underlying statistical method whereby the test variables are being tried out is not appropriate to the problem which the Rorschach test sets up. They were devised in the first instance to isolate and measure separate variables. The Rorschach test askes the questions: how do the many observed behavior items distribute and recombine within any one individual? In D, Dd, P, Z, the statistical basis is as adequate as for most if not all the tools in psychometric science. The W factor is identifiable a priori. Similarly, content is either animal or not animal, human or not human. A statistical rule is available for measuring W, D, and Dd (Ap). In respect to Seq we still have recourse to inspection, although the error here is relatively light. It is in the variables in the middle column of the summary that room for subjectivity is greatest. In this column are set the scoring categories most interpreted as representing emotional operations: M and its blends; C and its nuances and blends; Y, V, T, and their nuances and blends.

In this study the analysis of various technique was used to determine the significance of differences between age and race for many of the test factors. Analysis of variance was used in this study rather than chi square because the chi square technique does not provide a means of evaluation of age-race differences at the same time, or to see the possible interaction effect between the two variables. Also, a minimum frequency of five to ten per cell or category is the accepted standard for chi square, and it would, therefore, be inadvisable where frequencies are small. The responses were coded on IBM cards, and data required for analysis of variance and other statistical computations were derived from tables computed from the IBM decks. Means, standard deviations, and percentages were computed making possible a comparison of the data in this study and the results of other investigators.

CHAPTER II

PROBLEM

What we know about personality dynamics has to be pieced together from many sources. Rorschach research is very time consuming, and to undertake research using large samples for normative work requires a staff of trained workers. This study was designed to implement the growing body of research using the Rorschach test in the study of personality. It is a genetic or developmental study to compare the records of children at three different age levels, and both white and Negro races from a Southeastern community.

The data obtained will aid in setting up frames of reference. They will be an adjunct to the establishment of a normal expectancy for the psychological operations revealed by the Rorschach test for the age levels being used in this study. The statistics for the normal ranges give us foot rules whereby to measure distortions, in respect to any psychologic variable. This study is directed toward the implementation of such knowledge. Basic to the analysis of the data obtained in this problem is the determination of good and poor form responses, the F plus and the F minus for these age levels. The first undertaking in the treatment of results will be this major task. Beck (5) discusses the psychological significance of F plus and F minus in his volumes on the Rorschach test.

The general hypothesis of this study is that the Rorschach protocols of children in this Southeastern community will show differences with respect to age and race.

On the basis of past research the following conjectures on the growth of personality seem reasonable. In the intellectual sphere there is an increase in quantitative and qualitative productivity as the differentiation of the environment continues. Stereotypy of thought processes decreases as additional intellectual exploration multiplies the past stimuli available for recall and reorganization. The accuracy of the perceptual processes increases as the imaginal world becomes more closely related to the stimulus pattern. Instant and undifferentiated interpretations of stimuli decrease as the ability to analyze and synthesize become operant. More meaningful organization of data takes place. The fantasy life becomes less autistic and serves the function of creativity, in the normal population, as well as a factor of sublimation and inner living. As the child matures he is increasingly able to organize the elements of a new situation into meaningful and adaptive patterns with greater facility.

Emotionally the young child may respon with uninhibited feeling experience. As the need to be realistic gradually acts as a restraint, there is a shift in emotional responses from the unctrolled impulses to the more mature, stable, controlled behavior. The highly labile reactivity is mastered and feelings no longer overwhelm the subject. There is sufficient feeling remaining in the personality picture to permit affective rapport with one's world, but it is essentially a controlled

reaction. Feelings of inferiority, depression, and dysphoric moods of gloom, generally appear much later in the development of personality than do the lively emotional aspects. As the child matures, the personality gradually develops a general framework within which the other factors operate. The overall structure becomes an introversive or extratensive pattern which gives direction of general configuration to the other nuances of personality.

On the basis of studies of personality and from experience, the writer hopes this study will throw light on the question of significant personality differences between the whites and Negroes as reflected in the Rorschach test. If such differences do exist are they equally pronounced at all age levels, or do they tend to emerge as the processes of maturation and socialization leave their marks on the individual? There have been few Rorschach studies which have compared systematically the intellectual functioning, emotional expression, or, in short, the personality of white and Negro children. The present study may indicate the existence of some differences of personality.

In the projection of degree or height of intelligence a pattern of Rorschach scoring categories needs to be taken into consideration. The whole response (W) and organizational activity (Z) are two of these categories to be considered. In general, the more W produced, the higher the intelligence potential of the individual, and when it appears it is usually regarded as an analysis-synthesis activity. In children or inferior adults, it may be of poor quality, or reflect an easy or quick response without regard for analysis. In one sense the Z score

is a quantitative measure of the intellectual energy of the subject. Stereotypy of mental functioning may be reflected in the animal (A) or part animal (Ad) content. Since the areas of the ink blots are easier to see as animal content, a high percentage of this category may reflect an intellect frozen in anxiety, or one that is inherently low grade, seeing only what is patent. The principal test factor through which the individual shows his ability to direct his attention and make discriminating judgments, is the F plus percept, and the converse is true: the weaker the ego, the higher the proportion of F minus percepts which appear. The inner living (M) or fantasy world is revealed through the human movement response. Affective experiences are projected in the color (C, CF, FC) responses of the individual. The pure C response untempered by form control reveals the uncontrolled emotional response of the very young child, and is indicative of uninhibited feeling experience in the older person. The CF category is characteristic of the less impulsive but still highly labile reactivity. Developmentally the FC cateogry is the mature response to emotional stimuli where control dominates or masters the feelings. The individual is actuated by feelings, but can handle them. The vista (V), flat-gray (Y), and texture (T) responses are light-determined and project experiences of oppressive feeling quality. The generic value of Y is in uncovering the subject's recourse to inactivity and is exactly complementary to that of color response. Texture responses seem to project a need for affective experience.

CHAPTER III

PROCEDURE

The population of this study is comprised of 180 subjects. Ninety of the subjects are white and ninety are Negro. Three age levels are used (6-10-14) for both races, with thirty white and thirty Negro subjects at each age level. Each group of thirty subjects is made up of five above average, twenty average, and five below average members. The sex ratio is approximately half male and half female in each age-race group.

In the selection of the five above average white subjects at the six year age level a list of the students was obtained from four elementary schools in Gainesville, Florida, of children who scored above 110 IQ on the Pintner-Cunningham test. This test was administered by the classroom teachers in November which allowed for a reasonable period of adjustment to the school situation. Five children were randomly selected from this group.

The selection of the average group of six-year-old white subjects was based on the same test. Twenty subjects were chosen randomly from those children scoring from 90 IQ to 110 IQ.

The five below average six-year-old subjects were selected on a random basis from the group scoring below 90 IQ.

In an attempt to get a relatively culture free check on intelligence, all subjects were given the Goodenough Draw-A-Man Test. This

was done individually at the time appointed for testing. If the score earned on the Goodenough placed the subject in the same range of intelligence as the Pintner-Cunningham IQ, the Rorschach test was then administered immediately.

In the selection of the white subjects ten years of age the same schools were used. For preliminary selection the available psychometric data were used. The test scores were taken from the Kuhlman-Anderson or the Pintner-Cunningham tests. The same IQ ranges for division of intelligence groups were used as with the six-year-old subjects. The subjects were given the Goodenough Draw-A-Man test and if there was agreement for intellectual range (above average, average, below average) with the Pintner-Cunningham data, the Rorschach was given.

The thirty fourteen-year-old white subjects were taken from the Gainesville High School. The five above average subjects were selected, first, on the basis of grade averages. A year's average grade of A, B plus, and B was used as criterion. Also, these subjects were on grade for age or above grade for age. The Goodenough test was given individually at the time of testing and those who earned a superior rating were then given the Rorschach test. As an additional check on this method of selection, the A.C.E. using high-school norms was administered to the subjects in the above average group, and all attained a score placing them at least one standard deviation above the mean.

The average group of twenty white subjects was first selected from those whose grade averages were generally C grades to B minus.

These subjects were on age for grade. At the time of testing the Goodenough test was given first and there were very few discards.

The five below average subjects were selected from students fourteen years of age with grade averages below C, and who were below average on the Goodenough test.

The six-year-old Negro subjects were taken from the Williams School, and the Lincoln School in Gainesville, Florida. The Pintner-Cunningham test was given to all first grade students at the time the white subjects received the same test in November. A frequency distribution was plotted for the Negro children and the mean IQ and the standard deviation were determined.

The five above average Negro children were randomly selected from these scores and the Goodenough test. The procedure used in selection and testing was the same as that used with the white subjects.

The twenty average six-year-old Negro children were chosen from the test IQ range eighty to ninety-five, and were also given the Goodenough test at time of testing, as were the white subjects.

The same general procedure was followed for the five below average subjects who were selected from subjects below eighty IQ range.

The ten-year-old Negro subjects were from Lincoln School in Gainesville, Florida. The five above average subjects were selected from those having a yearly grade average of A, B plus, and B, and who were on age for grade. At the time of testing each subject was given the Goodenough test, and those with above 110 IQ were retained for Rorschach testing. There were no discards.

The twenty average ten-year-old Negro subjects were selected from those with grade averages of C and some B minus who were on age for grade. The Goodenough test was administered at time of testing and there were very few discards. Those who had been selected by grades and who earned between 90 IQ and 100 IQ scores on the Goodenough were retained for Rorschach testing.

The fourteen-year-old Negro subjects were chosen in the same manner as were the fourteen-year-old white subjects. After the five above average subjects had taken the Goodenough test and the Rorschach had been administered, they were given the A.C.E. using high-school norms. On the Q score they were one standard deviation above the mean.

In general, in this study, approximately half of the thirty subjects from each race at each age level were boys and approximately half were girls. For reasons peculiar to this community's zoning, no attempt was made to control percentages of children who were bus transports.

The Rorschach test was administered according to standard procedure. The inquiry followed immediately after the free association, beginning with card ten and working back to card one. The subjects were then asked to select the card they liked best, and the one they liked least.

CHAPTER IV

RESULTS

An important practical outcome of this study, aside from its theoretical implications, is the F plus and F minus table given in Appendix I. This table incorporates previous findings of Beck and Hertz in addition to the evidence obtained in this study. In order to be consistent with work done by Beck, any response to any one area of a card that occurred four or more times was classified as an F plus or good form response. Responses which occurred and did not meet this criterion but were given as plus in Beck's (4) and/or Hertz's (18) tables are listed as plus responses in Appendix I. In the very few cases of such responses where there was a conflict between the Beck and Hertz tables the Beck classification was used. Out of this analysis also came the determination of the popular (P) responses. The criteria used for determining the popular responses were those outlined by Beck et al. in their article in The Journal of Psychology, Volume 30, October 1950, pages 241-298. It seems obvious that the procedure of using at all age levels the popular responses which Beck lists would not be appropriate for children's records. When the popular responses were determined only seven from Beck's list proved to be popular in this study. In addition to these seven, four more responses not listed by Beck proved to be popular for this group. The popular responses for this group were:

*	Card II	D3	butterfly
	Card IV	D6	shoes, or human feet
*	Card V	W	butterfly
	Card V	D6	rabbit head
*	Card VI	D1	animal skin
	Card VII	D2	dog
	Card VII	D4	butterfly
*	Card VIII	D1	animal
*	Card IX	D4	man's head
*	Card X	D2	dog
*	Card X	D5	rabbit's head

Responses preceded by an asterisk (*) were popular in Beck's data and in this study. Those without the asterisk were popular in this study but not in Beck's data.

Generally the data will be taken up under two headings, intellectual factors and emotional factors. Where pertinent developmental differences occur, they will be pointed out and discussed as will race differences. Some of the data do not fall clearly into either of the above mentioned categories, and some have pertinence to both categories.

A. Intelligence Factors

One of the most important indicators of intellectual functioning is total number of responses which the individual gives to the series of cards. It was expected that with increasing age and concomitant development the individuals would show an increase in functioning intelligence and ability to make differential adjustments and responses to new situations. The analysis of variance on response total classified by age

and race shows this to be true in so far as functioning intelligence is indicated by response total. The differences between age groups in the analysis were significant at the .001 level of confidence with the six-year-olds having the lowest response total, the ten-year-olds intermediate, and the fourteen-year-olds with the greatest response total. Even though on the average the white group had a slightly higher mean response total than did the Negro group as shown in Table 1, the analysis of variance did not indicate race to be a significant factor relative to response total. However, the analysis did show that the interaction between race and age was significant at the .05 level. The mean response totals and standard deviations for the various age-race groups are given in Table 1.

Beck and Rabin (7) report essentially the same mean number of responses for children of six and thirteen years of age as those found in this study.

Ames (2) reports quite different average number for responses at the ten year level. The average she gives is 16.3 while the average found in this study is nearly ten points higher.

Hertz and Ebert (19) found that the mean number of responses for above average six-year-old children used in their study was twenty-two. In the present study the average response total for this age was twenty-six. For above average eight-year-old children her response total was essentially the same as that interpolated from this study.

Another significant intellectual indicator on the Rorschach is the Z or organizational score. This involves the familiar analysis-

TABLE 1

AGE-RACE GROUP MEANS AND STANDARD DEVIATIONS

FOR RESPONSE TOTAL

FACTOR	GROUP	MEAN	S.D.
Response Total	6 year White	20.20	5.62
	6 year Negro	21.83	3.16
	10 year White	27.37	6.31
	10 year Negro	26.33	4.12
	14 year White	30.33	6.93
	14 year Negro	26.77	5.56
	All White	25.97	7.61
	All Negro	24.98	4.93
	All	25.47	6.43

synthesis process found in abstract reasoning. We may characterize it as the ability to perceive the elements of a situation and combine them into a meaningful context.

Here again we would expect developmental differences to be manifest. The mean total and standard deviation for the various groups are given in Table 2. The analysis of variance performed on Z total shows the age differences to be significant at the .001 level with the six-year-olds having the lowest mean, the ten-year-olds intermediate, and the fourteen-year-olds demonstrating the most ability to organize the parts of the blots with one another. The analysis also shows the difference in organizing ability to be significant at the .05 level for the two races. The whites showed significantly more ability to organize.

Since both of these factors reputedly are indicative of intelligence, we might logically expect them to be correlated with one another. A Pearson product-moment correlation was computed for these two variables. It was plus .363 which is significant beyond the .001 level as indicated by the critical ratio of 4.84 obtained when we divided R by its standard error. This correlation, while quite significant statistically, indicates that the factors response total and Z total measure different things, for the most part, even though there is a factor common to both.

The analysis of variance of response totals for the subjects classified as above average intelligence, average intelligence, and below average intelligence on the basis of the selection procedure

TABLE 2

AGE-RACE GROUP MEANS AND STANDARD DEVIATIONS

FOR Z TOTAL

FACTOR	GROUP	MEAN	S.D.
Z Total	6 year White	9.85	6.87
	6 year Negro	6.93	7.92
	10 year White	16.01	11.68
	10 year Negro	10.48	8.16
	14 year White	23.88	12.18
	14 year Negro	18.20	14.17
	All White	16.85	11.97
	All Negro	11.87	11.50
	All	14.23	11.97

lends support to the use of response total as a valid indicator of intelligence. For the fourteen-year-old subjects classified as to intelligence and race the analysis showed the differences between intelligence levels to be significant at the .001 level. The difference between the races for the fourteen-year-old subject proved to be significant at the .01 level of confidence. For the ten-year-old subjects the analysis of variance for response totals for subjects classified in the same way as the fourteen-year-olds above, showed the intelligence factor to be significant at the .01 level. Here the racial difference was not significant. For the six-year-olds the differences in response total due to differences in intelligence were significant at the .001 level. Race was not significant at this age. We see here an indication of a possible difference in intellectual functioning between the two races which is very slight or non-existent at the lower age levels but which begins to emerge as a definite difference in favor of the white group as they enter adolescence. Table 3, which gives the mean response totals and standard deviations for the different age-race groups classified as to intelligence levels, shows how this difference increases with age. Further study would be needed to show whether this difference continues to increase into the adult years or whether this difference is peculiar to the fourteen year or early adolescent age level. It is significant to note that response totals vary at all age levels studied here with the selection classification of the subjects' intelligence.

TABLE 3

MEANS AND STANDARD DEVIATIONS FOR RESPONSE

TOTAL FOR THE DIFFERENT AGE-RACE GROUPS BY INTELLIGENCE LEVEL

INTELLIGENCE LEVEL	GROUP	N	MEAN	S.D.
Above Average	6 year White	5	26.40	6.02
	6 year Negro	5	25.40	2.15
	10 year White	5	34.60	4.03
	10 year Negro	5	28.80	2.55
	14 year White	5	38.20	4.45
	14 year Negro	5	31.20	7.11
	All White	15	33.07	6.96
	All Negro	15	28.47	5.10
	All	30	30.77	6.51
Average	6 year White	20	19.95	4.66
	6 year Negro	20	21.80	2.25
	10 year White	20	26.45	5.89
	10 year Negro	20	26.00	3.75
	14 year White	20	30.30	5.55
	14 year Negro	20	27.35	3.84
	All White	60	25.57	6.88
	All Negro	60	25.05	4.05
	All	120	25.31	5.67
Below Average	6 year White	5	15.20	1.60
	6 year Negro	5	18.60	3.61
	10 year White	5	23.80	3.87
	10 year Negro	5	25.00	5.40
	14 year White	5	22.60	4.84
	14 year Negro	5	20.00	3.03
	All White	15	20.53	5.30
	All Negro	15	21.20	4.97
	All	30	20.87	5.15

Using the same method of grouping subjects as above, by intelligence and race, the analysis of variance for the fourteen-year-old subjects showed that the total organization or Z score values differed with the level of intelligence of the subject. These differences were significant at the .01 level. The difference between Z totals for the two races at the fourteen year level was significant at the .05 level. Among the ten-year-olds the racial difference for Z totals was significant at the .05 level. The intelligence classification did not show up as significant here. The reason for this, from an inspection of Table 4, seems to be that there was little or no difference among the three intelligence levels for the Negro group. Table 4 shows that the differences for the ten-year-old whites were fairly sizeable and in the expected direction. The analysis for the six-year-olds showed neither race nor intelligence to be significant, but the interaction of the two factors showed significance at the .05 level. Organization ability, therefore, seems to present us with a somewhat different picture of developmental differences than did response total. Whereas with response total we saw differences due to intelligence at all age levels and an emerging racial difference with increasing age, with Z total we see a racial difference that seems to be present at all age levels, and differences due to intelligence that make their appearance in the older age group.

One might characterize intelligent behavior as containing at least the two components, trial and error behavior, and insightful behavior. In a given situation, if two individuals, each of whom has

TABLE 4

MEANS AND STANDARD DEVIATIONS FOR Z SCORE

TOTAL FOR THE DIFFERENT AGE-RACE GROUPS BY INTELLIGENCE LEVEL

INTELLIGENCE LEVEL	GROUP	N	MEAN	S.D.
Above Average	6 year White	5	9.50	7.65
	6 year Negro	5	17.30	13.11
	10 year White	5	20.20	7.95
	10 year Negro	5	9.90	5.78
	14 year White	5	33.40	10.86
	14 year Negro	5	33.60	12.18
	All White	15	21.03	13.25
	All Negro	15	20.30	14.72
	All	30	20.67	14.02
Average	6 year White	20	9.13	6.57
	6 year Negro	20	5.23	4.05
	10 year White	20	15.97	12.76
	10 year Negro	20	10.95	9.31
	14 year White	20	21.98	12.02
	14 year Negro	20	16.28	13.07
	All White	60	15.69	12.01
	All Negro	60	10.82	10.56
	All	120	13.25	11.58
Below Average	6 year White	5	13.10	6.14
	6 year Negro	5	3.40	1.36
	10 year White	5	12.00	9.28
	10 year Negro	5	8.98	3.61
	14 year White	5	22.00	9.04
	14 year Negro	5	10.40	7.57
	All White	15	15.70	9.09
	All Negro	15	7.59	7.59
	All	30	11.65	8.67

none of the components which we have labeled insightful behavior, have different capacities for trial and error behavior, then we could say that the one who has the greater trial and error capacity is the more intelligent. One might classify response total as an indicator of the person's capacity for trial and error behavior, and Z or organizational total as an indicator of his capacity for insightful behavior. While emotional factors can depress or increase these totals, in general, for normal groups, these two factors are indicative of level of intellectual functioning. On the basis of this characterization of response total as akin to trial and error behavior, and organization total as akin to insightful behavior, we can make these statements about developmental trends. By the time children reach the age of six years the whites seem to show an already present advantage in capacity for insightful behavior, and they continue to hold this advantage as they get older. With respect to capacity for trial and error behavior it would seem that the two races are about on even terms at the six year level but that as time goes on the whites begin to evidence an advantage which is clearly demonstrated at the fourteen year level. It would also seem likely that what we call differences in intelligence are due mainly to differences in capacity for trial and error behavior at the younger age level and that differences in insightful behavior do not begin to manifest themselves as differences in intelligence until a later age. As the process of socialization goes on during the child's lifetime, with increasing age he is forced, as it were, to take increasing cognizance of cause-and-effect

relationships, social relationships, and many other relationships between parts of his environment. In short, he is either forced, or is able for the first time, to exhibit insightful behavior and foresee consequences and be aware of these various relationships.

Response total and organization total are among the most important intellectual indicators on the Rorschach test. There are others, however, some of which will be discussed here. One such factor is the F plus per cent. The F plus per cent gives some indication of the agreement between an individual's perception and reality. Comparison of the results set forth in Table 5 with the standardization work done by Beck on adults shows a tendency for the mean F plus per cent to be lower, and the variability to be greater among the 180 children in this study. This is another indicator of the errors which may be committed by applying adult norms to non-adult groups. Applying Beck's figure of sixty as the absolute minimum F plus per cent which an individual must have to be classified in the "normal" group, and also applying his normal curve reasoning, we would be forced to conclude that about fifteen per cent of the ten-year-old Negro subjects in this study were from some other personality group than the "normal" as compared to less than one per cent in the adult population. Inspection of the F plus per cent results in Table 5 shows that there is little or no difference on this variable among the various age-race groups. This was borne out in the analysis of variance. There is a possible indication that if we went back earlier than the six year level we would get a decreasing F plus per cent with decreasing age. This is

TABLE 5

AGE-RACE GROUP MEANS AND STANDARD DEVIATIONS

FOR F PLUS PER CENT

FACTOR	GROUP	MEAN	S.D.
F plus per cent	6 year White	75.90	11.64
	6 year Negro	75.37	13.09
	10 year White	79.73	11.98
	10 year Negro	79.53	18.63
	14 year White	79.23	11.82
	14 year Negro	79.33	10.57
	All White	78.29	11.94
	All Negro	78.08	14.62
	All	78.18	13.35

not surprising in view of the relatively greater lack of differentiation among very young children. This lack of correlation between the perceptions and thought processes of the young child and reality is well known from other work in this area.

Beck and Rabin (7) report an F plus per cent of sixty-four for six-year-olds, whereas in this study the F plus per cent for the same age group was seventy-five per cent. Beck and Rabin (7) report 76.2 as the F plus per cent for thirteen-year-old subjects which is close to the seventy-nine from the present study. These differences could be easily accounted for by differences in the F plus and F minus scoring.

Ames et al. (2) state that the F plus per cent remains above fifty per cent at all age levels, which agrees with the findings in this study.

Another intellectual factor is the percentage of the total number of responses that have animal content. This is characterized as the A, or animal, per cent. The means and standard deviations for the A per cent for the various age-race groups are also given in Table 6. Animal per cent varies inversely with intelligence. There has been some indication from previous work that the percentage of A responses is significantly higher among children than among adults. This tendency was borne out in this study as compared to the figure quoted by Beck. There seems to be a tendency also for the subjects in this study to be less variable in this respect than were Beck's subjects. The analysis of variance here indicated no significant race or age differences. The

TABLE 6

AGE-RACE MEANS AND STANDARD DEVIATIONS FOR ANIMAL PER CENT

FACTOR	GROUP	MEAN	S.D.
A per cent	6 year White	54.53	14.92
	6 year Negro	52.60	13.26
	10 year White	49.80	12.93
	10 year Negro	55.00	15.11
	14 year White	50.63	9.64
	14 year Negro	50.93	12.44
	All White	51.66	12.85
	All Negro	52.84	13.75
	All	52.25	13.32

product-moment correlation between the factors F plus per cent and A per cent was only plus .126 which does not reach significance even at the .05 level.

The studies of Carlson (10), Ames (2), Ledwith (30), and Bochner (9) are in general agreement with the content frequency found in this study.

The analysis of variance for the F plus responses with subjects classified by age and race showed neither age nor race to be clearly significant factors in determining the frequency of F plus responses. The interaction between age and race was significant at the .001 level. Inspection of the data in Table 7 indicates a tendency for the Negro subjects to give more F plus responses at the six and ten year levels than did the whites, but with the two races being about equal at the fourteen year level. In terms of age differences the ten-year-olds gave the greatest number of F plus responses, with the fourteen-year-olds being next and the six-year-olds giving the fewest. The analysis of variance done for the frequency of occurrence for the F minus response showed no significant differences. Generally, the Negroes had a greater proportion of their responses that were determined by the form element alone than did the whites. This tendency for them to rely more on the form or reality element is in line with the other indications found in this study of an intellectual advantage on the part of the white subjects. One of the indicators of intellectual functioning on the Rorschach test is the use of a variety of determinants and content categories in the determination of responses. Though the difference in frequency of form

TABLE 7

MEANS, STANDARD DEVIATIONS, AND PER CENT OF TOTAL NUMBER OF RESPONSES FOR EACH GROUP BY F PLUS AND F MINUS DETERMINANTS

DETERMINANT	GROUP	MEAN	S.D.	PER CENT OF TOTAL NUMBER OF RESPONSES FOR EACH GROUP
F plus	6 year White	11.50	3.45	56.93
	6 year Negro	13.07	1.41	59.85
	10 year White	15.29	5.56	55.54
	10 year Negro	16.43	3.71	62.40
	14 year White	14.93	4.44	49.23
	14 year Negro	15.07	4.05	56.29
	All White	13.88	4.87	53.44
	All Negro	14.86	3.63	59.48
	All	14.37	4.32	56.40
F minus	6 year White	3.57	2.04	17.66
	6 year Negro	4.30	2.52	19.69
	10 year White	3.77	2.40	13.76
	10 year Negro	3.43	2.55	13.04
	14 year White	3.77	2.40	12.42
	14 year Negro	4.13	3.10	15.44
	All White	3.70	2.29	14.25
	All Negro	3.96	2.76	15.84
	All	3.83	2.54	15.03

determined and animal content responses is not large enough for statistical significance, it may be indicative of a trend in the direction mentioned above.

The human movement (M) response on the Rorschach test is said to be something of an indicator of the amount of intellectual energy which the person brings to bear on his adjustmental problems. The analysis of variance on this factor shows differences between the races to be significant at the .05 level and age differences to be significant at the .001 level. The mean number of M responses increases with age and is greater among the whites than among the Negroes. This is shown in Table 8. The analysis of variance for the animal movement (FM) responses gives precisely the same picture as that for the M responses. Thus we see an increasing amount of intellectual energy available as the child grows older. We likewise see the white subjects exhibiting an advantage over the Negroes on another of the intellectual factors. The inanimate movement (m) response did not occur with sufficient frequency among any of the groups for statistical analysis.

The human movement response is also characterized as showing the individual's recourse to fantasy activity, and possibly to be an index of creativity.

On the basis of the analysis of variance mentioned above, we can say that the older children show this index of creativity and fantasy activity to a significantly greater degree than do the younger children, and white children to a significantly greater degree than do the Negro children.

TABLE 8

MEANS, STANDARD DEVIATIONS, AND PER CENT OF TOTAL NUMBER OF RESPONSES FOR EACH GROUP FOR M AND (FM) DETERMINANTS

DETERMINANT	GROUP	MEAN	S.D	PER CENT OF TOTAL NUMBER OF RESPONSES FOR EACH GROUP
M	6 year White	.57	.92	2.80
	6 year Negro	.20	.40	0.92
	10 year White	1.03	1.22	3.78
	10 year Negro	.93	1.24	3.54
	14 year White	2.63	1.92	8.68
	14 year Negro	1.60	1.62	5.98
	All White	1.41	1.67	5.43
	All Negro	.91	1.33	3.65
	All	1.16	1.53	4.56
(FM)	6 year White	.50	.76	2.48
	6 year Negro	.43	.84	1.98
	10 year White	1.43	1.58	5.24
	10 year Negro	.90	1.62	3.42
	14 year White	1.87	1.56	6.15
	14 year Negro	1.13	1.38	4.23
	All White	1.27	1.47	4.88
	All Negro	.82	1.35	3.29
	All	1.04	1.43	4.10

Beck and Rabin (7) state that M remained fairly constant in their group of children from six to thirteen years of age. In this present study there was a steady increase with age.

Carlson (10) reports a mean of M as 6.8 per cent as compared to the 3.6 per cent at ten years reported in this study. Carlson reports fifteen per cent FM at eight years, compared with four per cent at ten years in this study.

Bochner and Halpern (9) state that FM and m exceed M in young children, which is a finding contrary to the results of this present study.

Ledwith (30) reports for six-year-old subjects a mean for M as 1.2 and for FM a mean of 2.9. In the present study the mean M at this age was .35 with a standard deviation of .6. The standard deviation in the Ledwith study was 1.5 showing far greater variability, and a much larger mean. The mean FM in the present study was .5 compared with the 2.9 in the Ledwith study.

Another intellectual indicator, not so much of amount but rather of type of intelligence, is the approach or balance among the whole (W), major detail (D), and minor detail (Dd) responses. Table 9 shows the percentages of responses for the various age-race groups to W, D, and Dd areas. There is a tendency for the white group to give more attention to the W response than do the Negroes. There seems to be little or no difference in terms of percentages of Dd responses for the two races. There is an indication that the Negroes may give somewhat more attention to the D responses. In terms of frequency of W responses the

TABLE 9

APPROACH FOR DIFFERENT AGE-RACE GROUPS

SHOWING PERCENTAGE OF RESPONSES FOR EACH GROUP

TO W, D, AND Dd AREAS

GROUP	PER CENT W	PER CENT D	PER CENT Dd
6 year White	15.3	75.3	9.4
6 year Negro	10.7	82.6	6.7
10 year White	13.5	79.3	7.2
10 year Negro	8.9	83.9	7.2
14 year White	15.5	75.5	9.0
14 year Negro	11.8	79.6	8.6
All White	14.7	76.8	8.5
All Negro	10.4	82.0	7.6
All	12.6	79.4	8.0

analysis of variance showed an interaction between age and race significant at the .001 level. Age and race might have shown significance independently in this analysis except for the fact that there was no difference in frequency of occurrence of the W response between the ten-year-old and six-year-old Negroes. The analysis of the frequency of occurrence of D responses showed the age factor to be significant at the .01 level and the race factor to have no significance. The analysis of variance on the frequency of Dd responses for the age-race groups showed no differences that were statistically significant. The mean response totals and standard deviations for the W, D, and Dd areas for the various age-race groups are given in Table 10. Thus we see that any major difference in approach between the races is due to a shift in emphasis between the W and D responses. The Dd responses remain relatively stable for all the age-race groups. In summary, there is a tendency for the white subjects and older subjects to give a slightly greater emphasis to the W responses. Again comparing with Beck we see that the increase in emphasis of the W response probably continues to the adult level. Whether the racial difference continues or not, we don not know. This developmental change coincides with other studies which have indicated the increasing comprehensiveness of thinking and intellectual activity which accompanies genetic development.

Beck and Rabin (7) found no significant changes in the relationships between W, D, and Dd between ages six and fourteen years. Changes did occur in the present study. Also, the W per cent in the Beck and

TABLE 10

MEAN RESPONSE TOTALS AND STANDARD DEVIATIONS BY LOCATION (W, D, OR Dd) FOR THE DIFFERENT AGE-RACE GROUPS

GROUP	R		W		D		Dd	
	M	S.D.	M	S.D.	M	S.D.	M	S.D.
6 year White	20.20	5.62	3.10	1.72	15.23	5.46	1.90	1.62
6 year Negro	21.83	3.16	2.33	1.25	18.07	3.57	1.47	1.28
10 year White	27.37	6.31	3.70	2.30	21.70	6.32	1.97	1.35
10 year Negro	26.33	4.12	2.33	1.25	22.10	3.43	1.90	1.45
14 year White	30.33	6.93	4.70	2.57	22.90	6.74	2.73	2.10
14 year Negro	26.77	5.56	3.17	2.65	21.30	4.87	2.30	2.54
All White	25.97	7.61	3.38	2.32	19.94	7.05	2.20	1.76
All Negro	24.98	4.93	2.61	1.88	20.49	4.37	1.89	1.88
All	25.47	6.43	3.22	2.20	20.22	5.87	2.04	1.83

Rabin study was about that for adults, and in the present study a smaller percentage of W was found.

The results of Carlson's (10) study are in general agreement with this study.

In the studies by Ledwith (29), Paulsen (36), and those reported by Bochner (9) the W factor was either as great or in excess of D. This is contrary to the findings in the present study as W did not equal D at any age level.

B. Emotional Factors.

Perhaps the best way to begin a discussion of the emotional factors is to examine the experience balance for the various groups. The experience balance is the ratio between the number of human movement, or M, responses and the summation of the color values. In summing the color values an FC response, or one in which form element is predominant over the color element, is given a weighting of 0.5; a CF response, or one in which the color element is dominant over form element, is given a weighting of 1.0; and a pure C response, or one in which color is the sole determinant, is given a weighting of 1.5. Movement or color responses that occur in blends with other determinants are treated in the same manner as those not in blends in determining the experience balance. Table 11 shows the experience balance for the various age-race groups expressed in two ways: first, as a ratio between the mean number of human movement responses for the group concerned and the mean summation of the color values for that group; second, as a decimal fraction to make comparisons among the groups

TABLE 11

EXPERIENCE BALANCE FOR THE AGE-RACE GROUPS EXPRESSED AS: A RATIO BETWEEN THE MEAN NUMBER OF M RESPONSES AND MEAN SUMMATION OF THE COLOR VALUES; A DECIMAL FRACTION.

RACE	AGE IN YEARS							
	6		10		14		All	
	Ratio	Decimal	Ratio	Decimal	Ratio	Decimal	Ratio	Decimal
White	.77/3.15	.24	1.23/3.23	.38	3.07/3.38	.91	1.69/3.25	.52
Negro	.30/3.16	.09	1.00/2.62	.38	1.87/2.40	.78	1.06/2.73	.39
Both Races	.54/3.15	.17	1.12/2.92	.38	2.47/2.89	.85	1.37/2.99	.46

easier. An experience balance in which the number of movement responses is greater than the summation of the color values is said to indicate an introversive trend in the emotional make-up of the individual concerned. An experience balance in which this ratio is equal to unity is said to indicate the ambi-equal sort of balance between introversive and extratensive trends in the emotional structure. An experience balance in which the number of movement responses is less than the summation of the color values is characteristic of the extratensive individual.

Past research with the Rorschach test has indicated that, in general, the younger the child is the more extratensive is his emotional life. This is an expression of the egocentric and more or less unbridled sort of emotional behavior of the young child. As the child matures, his emotional behavior is brought more and more under the control of the ego. This picture of the development of emotional expression in the child from early school years up to adolesence is borne out by the results of Table 11. It will be noted that the decimal equivalent for the experience balance shows a steady increase with age for both races. The most spectacular increase seems to be between the ages of ten and fourteen. This, of course, coincides with the beginning of the period of adolescence during which it is not unusual to see the child withdraw somewhat and become more introversive in his thinking. There is also a tendency for the Negroes to be more extratensive in their emotional expression as indicated in Table 11.

The analyses of variances done on the determinants which go into the experience balance indicate that the age differences are significant at the .001 level for all factors except the pure C factor, which showed no significant age or race differences. In addition, the M factor shows a race difference that is significant at the .05 level of confidence.

Ledwith (29) reports an experience balance for six-year-old subjects as 1.2/2.3, or a ratio of one-to-two. In the present study the experience balance for this age level was .54/3.15, or a ratio of one-to-six.

Beck and Rabin (7), Ledwith (29), Paulsen (36), and others all report a shift from extratensive to a more introversive experience balance between the ages of six and fourteen years of age, and this is in agreement with the results of this study.

Ledwith (29) reports for six-year-olds a CF mean of .7 and a standard deviation of 1.0. In the present study a mean of 1.9 was found, with a standard deviation of 1.5. Ledwith reports a mean of 1.0 for FC with a standard deviation of 1.3. In this study a mean of 1.0 was found, with a standard deviation of only .10. Ledwith reports a mean of .7 for C, with a standard deviation of 1.2. In this study a mean of .4 was found with a standard deviation of .7.

The studies of Beck and Rabin (7), Ames (2), and Bochner and Halpern (9) are in general agreement with the present study, that CF is dominant at the six year level and shifts toward the FC dominance at later age levels.

Since the extent of feeling as measured by the summation of the color factors seems to be about the same for both races, any significant differences in the experience balance between the two races would have to be attributed to the M factor which does show significant racial differences. Thus we see the possibility of a differential means of handling or controlling emotional expression for the two races. One means of controlling emotional tensions is by engaging in fantasy activity or by turning the emotions inward toward the self. Evidently, this mechanism is not relied on by the Negro as much as by the white. Expressed another way, we say that the Negroes do not possess this buffer against emotional shock to as great a degree as do the whites, or at least it is slower developing among the Negroes than among the whites. When emotional crises arise, the individual with an extratensive experience balance may be expected to direct his affective reaction against the environment. The person with an experience balance that is extratensive has an entirely different outlook from the individual with an introversive structure, and the pattern of behavior he adopts towards persons of his environment is equally different. In this study the white subjects cannot be classified as introversive, but they are considerably less extratensive than the Negro subjects, and the differences in behavior would be expected to follow the patterns as presented. The Negro in this group achieves his control in a more formal manner (significant difference in number of form determined responses) that demands exertion of restraint and overemphasis on the reality aspect. Tension results from this strong

need for outward expression. A free or easy expression of emotions is less available to the Negroes in this study than to the whites. It would seem that the white child does not have to exercise this type of control because the tension is not as great for him. Further studies at higher age levels would be needed to determine whether or not these differences are found at all age levels.

Developmentally there is an increase in control over emotional behavior as shown by the shift from CF to FC responses with increasing age. This is in line with results from previous studies of developmental behavior.

Table 12 gives the means, standard deviations, and percentages of total number of responses for each group by FC, CF, C, FV, and FY determinants. It includes only those determinants whose frequency of occurrence was at least one per cent of the total number of responses and which have not been included elsewhere. Thus many of the blends which occurred are not included in this table because they were so rare as to make any statistical comparisons extremely unreliable. The determinants listed in Table 12 and in previous tables accounted for almost ninety-five per cent of the total number of responses. The other five and a fraction per cent were divided among thirty-three diverse determinants which were blends with the exception of the inanimate movement, or (m) response, which occurred only six times, and the pure Y response which occurred only three times.

The light-determined responses, V and Y, in blends with various other determinants accounted for practically all of the responses not

TABLE 12

MEAN NUMBER OF FC, CF, C, FV, FY RESPONSES, THEIR STANDARD DEVIATIONS, AND THEIR PER CENT OF TOTAL NUMBER OF RESPONSES FOR EACH GROUP.

DETERMINANT	GROUP	MEAN	S.D.	PER CENT OF TOTAL NUMBER OF RESPONSES FOR EACH GROUP
FC	6 year White	0.87	0.10	4.29
	6 year Negro	1.07	0.09	4.88
	10 year White	2.43	1.58	8.89
	10 year Negro	1.80	1.14	6.84
	14 year White	1.63	1.05	5.38
	14 year Negro	1.43	1.09	5.35
	All White	1.64	1.38	6.33
	All Negro	1.43	1.09	5.74
	All	1.54	1.25	6.04
CF	6 year White	1.87	1.59	9.24
	6 year Negro	1.97	1.40	9.01
	10 year White	.83	1.00	3.04
	10 year Negro	.90	.83	3.42
	14 year White	.67	.79	2.20
	14 year Negro	.80	1.05	2.99
	All White	1.12	1.29	4.32
	All Negro	1.22	1.24	4.89
	All	1.17	1.26	4.60
C	6 year White	.43	.76	2.14
	6 year Negro	.37	.60	1.68
	10 year White	.37	.60	1.34
	10 year Negro	.37	.87	1.39
	14 year White	.53	.81	1.76
	14 year Negro	.23	.42	0.87
	All White	.44	.73	1.71
	All Negro	.32	.66	1.29
	All	.38	.70	1.50

TABLE 12

(CONTINUED)

DETERMINANT	GROUP	MEAN	S.D.	PER CENT OF TOTAL NUMBER OF RESPONSESFOR EACH GROUP
FV	6 year White	.23	.62	1.16
	6 year Negro	.10	.40	.46
	10 year White	.63	.80	2.31
	10 year Negro	.40	.61	1.52
	14 year White	1.03	1.20	3.41
	14 year Negro	.50	.72	1.87
	All White	.63	.96	2.44
	All Negro	.33	.61	1.33
	All	.48	.82	1.90
FY	6 year White	.20	.48	.99
	6 year Negro	.20	.40	.92
	10 year White	.53	.67	1.95
	10 year Negro	.57	.76	2.15
	14 year White	1.27	1.03	4.18
	14 year Negro	.83	.90	3.11
	All White	.67	.88	2.20
	All Negro	.53	.76	2.14
	All	.60	.83	2.36

given in Table 12 and previous tables. Table 13 shows V and Y responses to occur very infrequently, but there was a consistent increase with age in the mean frequency of occurrence for each of these determinants and a consistently greater mean frequency of occurrence among the whites than among the Negroes at all age levels. There were enough responses with the FV and FY determinants to permit an analysis of variance for each of these factors. For the FV determinant the analysis showed the age difference to be significant at the .01 level, with increasing age being accompanied by increasing frequency of such responses. The racial difference for the FV determinant was significant at the .05 level, with the whites giving this determinant more frequently than did the Negroes. For the FY determinant the age difference was significant at the .001 level with increasing age again bringing increasing frequency of occurrence for this determinant. From these data the psychologic factors underlying the V and Y responses, feelings of self-reference and passivity in the face of threat respectively, would, on the bases of these results, appear to be relatively inoperative or unimportant in the personality make-up of the young child. With an increase in age these factors apparently begin to make themselves felt in the personality structure. Also, they seem to show a tendency to play a greater part in the personality structure of the white child than in that of the Negro child. It should be remembered, however, that these factors do not seem to be significant components of the personality of any of the age-race groups concerned in this study.

TABLE 13

MEAN FREQUENCY OF OCCURRENCE FOR V AND Y DETERMINANTS SINGLY OR IN BLENDS FOR THE VARIOUS AGE-RACE GROUPS.

GROUP	V	Y
6 year White	0.30	0.36
6 year Negro	0.10	0.20
10 year White	1.09	0.97
10 year Negro	0.64	0.73
14 year White	1.79	1.73
14 year Negro	1.06	1.26
All White	1.06	1.02
All Negro	.60	.73
All	.83	.88

Ames (2), Bochner (9), Ledwith (29), and others all report that the light-determined responses are used less frequently by children than any of the other major determinants. This is in agreement with the results of the present study.

The texture responses, or those containing a tactile element, are said to be indicative of affective deprivation or need. Among these 180 children they occured so infrequently, ten times among the whites and three times among the Negroes, that little light can be shed on the personality structure of these children by this element. It must be remembered that by and large the psychological significance of the various Rorschach scoring categories was arrived at by clinical analysis of responses of adult subjects. The fact that some of the psychological factors said to underlie these categories do not appear in the records of these children is not proof that these psychological factors do not operate in this group. There is always the possibility that the underlying psychological significance of the Rorschach categories is somewhat or possibly entirely different among children than among adults.

C. Content and Frequencies of Responses Per Card.

Table 14 shows frequency of responses and percentages of total number of responses for each of the test figures. As might be expected, the initial card, Card I, elicited the fewest responses. This is probably due to the shock of a new situation rather than an intrinsic factor in the stimulus that makes response more difficult. In line with the finding of other research studies Card X elicited the most

TABLE 14

FREQUENCIES OF RESPONSES AND PERCENTAGES OF TOTAL NUMBER OF RESPONSES BY CARD NUMBER

CARD NUMBER	I	II	III	IV	V	VI	VII	VIII	IX	X
Frequency	353	415	484	377	379	410	370	482	457	815
Per Cent of Total Responses	7.76	9.12	10.64	8.29	8.33	9.01	8.13	10.60	10.05	17.92

responses. This is not surprising in view of the fact that the stimulus figure for Card X is broken into more discrete areas than is any other test figure. The affective ratio or the ratio of the number of responses to the all-color cards, VIII through X, to the number of responses to the first seven cards, was .628 for the 180 children. This affective ratio is almost identical with that quoted by Beck from his research. Thus it would seem that the emotionally exciting stimulus elicits no more behavior on the part of the children than it does on the part of adults.

Of the thirty-four content categories mentioned by Beck, twenty-eight were used by the subjects in this study. In addition, they gave responses which necessitated five more content categories. Table 15 shows the percentages of total responses for each category. The last five categories in Table 15 are the non-Beck content categories referred to above. Inspection of Table 15 shows that the great majority of the responses of these 180 subjects were to the animal (A), animal detail (Ad), human (H), human detail (Hd), anatomy (An), botany (Bt), clothing (Cg), landscape (Ls), and nature (Na) content categories. The first four categories mentioned comprised almost three-fourths of the total number of responses.

TABLE 15

PERCENTAGE OF TOTAL NUMBER OF RESPONSES BY CONTENT CATEGORIES

CONTENT CATEGORY	PERCENTAGE OF TOTAL NUMBER OF RESPONSES IN CATEGORY	CONTENT CATEGORY	PERCENTAGE OF TOTAL NUMBER OF RESPONSES IN CATEGORY
A - Animal	39.64	Im - Implement	0.66
Ad - Animal detail	13.83	Ls - Landscape	2.07
H - Human	9.65	Mn - Mineral	0.00
Hd - Human detail	8.93	Mu - Music	0.11
Ab - Abstract	0.09	My - Mythology	0.00
Al - Alphabet	0.04	Na - Nature	2.48
An - Antiquity	2.53	Pr - Personal	0.15
Ar - Architecture	1.03	Rc - Recreation	0.29
Art	1.21	Rl - Religion	0.09
As - Astronomy	0.00	Ru - Rural	0.00
Ay - Anthropology	0.00	Sc - Science	0.07
Bt - Botany	6.92	Sex	0.11
Cg - Clothing	3.65	Tr - Travel	0.59
Cl - Clouds	1.28	Vo - Vocation	0.00
Dh - Death	0.00	Obj - Object	0.46
Fi - Fire	0.99	Blood	0.51
Fd - Food	0.44	Stuff	0.02
Ge - Geography	0.86	Explosion	0.37
Hh - Household	0.86	Light	0.09

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This study was undertaken as an effort to investigate developmental differences in personality as projected by the Rorschach test. The subjects were 180 school children in Gainesville, Florida, half of whom were white and half of whom were Negro. Three age levels were studied with thirty subjects from each race at each age level. The ages were six, ten, and fourteen years. On the basis of school grades, available psychometric data, the Goodenough Draw-A-Man Test, and in some cases the high-school edition of the A.C.E. Psychological Examination, the subjects were classified as below average, average, and above average in intelligence. In each age-race group there were twenty subjects of average intelligence and five in each of the below average and above average categories. All subjects were then given the Rorschach test under the same conditions. Beck's scoring procedures were used throughout. The data was then coded and put on IBM cards for analysis.

Analysis of the data for the 180 subjects brings forth the following conclusions:

There are significant developmental differences in personality as projected on the Rorschach test.

Also, there are significant racial differences in personality as projected on the Rorschach test.

In the intellectual sphere we find a developmental difference in both the amount and kind of intelligence displayed by the various age-race groups. We see a steady increase in the scope of intellectual activity and also a steady quantitative increase in such activity with increasing age. The older child is better able to organize his stimulus field and is more imaginative and less stereotyped in his manner of handling intellectual problems. The statements made about the older children as compared with the younger children also apply to the whites as compared to the Negroes. Likewise our subjects who were classified as to their intelligence on other criteria lived up to such classification in their Rorschach performances. The intelligence of the older and white children appeared to be more energetic and creative than that of the younger and Negro children. In comparison with other studies, notably Beck's, the intellect of these children seems to operate within a narrower scope than does that of the adult.

In the emotional sphere developmental and racial differences were also noted. There seems to be a general trend toward introversion with increasing age and this trend was somewhat more pronounced among the whites than among the Negroes. Developmentally there was in increase in ego control and a lessening of the uninhibited or self-centered type of emotional expression. Some of these emotional changes seem to be more spectacular as the child becomes an adolescent. The factors of depression, self-reference, and affective need seem to be almost completely absent from this group. The older children in this study are approaching the adult level and pattern of personality organization,

but have not quite reached it. Generally speaking, the younger children and Negroes seem to function in a somewhat less inhibited or controlled and less complex manner in the emotional sphere.

Any contribution to the understanding of the personality structure of children is of importance to the field of education. A genetic study contributes to the understanding of behavior at the age levels concerned so that capacities and performance can be better understood, and a program planned which takes these factors into account. At certain age levels the intellectual and emotional factors evidence a stability that may be disrupted at the next age level as the processes of maturation and differentiation proceed. It is well to recognize these patterns as normal growth processes and draft an educational plan which might aid in the present adjustment, and help in preparing the individual for the period of development which will follow.

With the modern stress on the student as an individual with his own unique problems, any effort to understand the individual personality must be made in light of both central tendencies and variabilities that occur in the different areas of the personality. This study indicates that growth and maturation are not always reflected in equal increments of progress in personality development. Since education is affected by personality conditions we might expect learning to go on at different rates among different groups, in different individuals, and even in the same individual from time to time.

More attention needs to be paid to racial differences. If the biological factors in personality are fairly similar for whites and

Negroes in the beginning, then most of the personality differences reflected in this study between the two races must be social or cultural in origin. The mechanics whereby social interaction fashions different group and individual personalities are still obscure to us. However, differences are known to exist both on the bases of this and previous studies. The etiology of these differences needs to be explored more fully.

It is recommended that further studies of developmental and racial differences be undertaken. As a whole, the picture is somewhat sketchy on this score and research needs to be undertaken from which adequate pictures of these differences can be assembled. This study, while it may be indicative of trends, logically has application only to a small segment of the population. However, the developmental and racial differences shown here point up the fallacy of trying to delineate the personality of the child on the basis of information assembled on adult subjects. Any clinician or theorist who attempts to portray the child's personality in these terms without being aware of the developmental and racial differences shown to exist, is committing a grave error. This is particularly true in the use of the projective techniques, more notably the Rorschach test. The Rorschach test has applicability with children, but only in the proper framework. By this is meant that in order to apply the Rorschach test to children one has to be aware of developmental differences among children of varying ages, between children of different races, and between children and adults.

APPENDIX

LEGEND FOR TABLE 1, FIGURES I THROUGH X

Arabic numerals appearing in the context of Table 1 indicate the position of the Rorschach figure as follows:

Numeral	Figure Position
1	Upright position
2	Rotated 90 degrees to the right
3	Rotated 180 degrees to the right (inverted position)
4	Rotated 270 degrees to the right

TABLE I

LIST OF F/ AND F- RESPONSES FOR ALL FIGURES

FIGURE I

W

F/ angel; bat; backbone; bird 1,3; butterfly; buzzard; cat face; cloud; cow (face or head); crab 1,3; crown; design; dog face or head; eagle; face (human); false-face; fox or fox face; goat head; hills; insect; insignia (U.S. Emblem); islands; jack-o-lantern; leaf; map; mask (Halloween); medal; mountain; owl face; pelvic bone; people; skeleton; vampire; woman (with wings); wolf head; emblem; Halloween;

F- animal head; bull face; canyon; chest; crown; dirt; dog; elephant head; animal face; flower; forest; gateway; house; monkey face; skin disease; snow-flake; tower; tree; valentine; waterlily; wildcat; X-ray chest;

D1

F/ antlers; claws (or lobster claws); crab pincers; hand; persons; horns (devil); reindeer antlers; spider pincers; horns;

F- alligator mouth; arms; bear; bird (or birds); devil; dog; feet (animal); fountain; people; teeth; tonsils; animal leg;

D2

F/ bird (or birds); cliff; cloud; man; men; mountain; profile (man); wings; witch; witch face; woman(or women); person;

F- alligator; face (animal); frog; mosquito (or mosquito hawk) 3; wave;

D3

F/ body (human); boy or boys; girl; legs (human); lizard 2; man; person (from hip down); tadpole; woman (or women);

D4

F/ body (human); bug; dress; girl; goblin; insect; man; people; woman (or women); person;

TABLE I - - Continued

	F- bee; body of animal; cat; frog; land; shadow; skeleton; tree; worm; shirt;
D5	F/ dog face or head; head (man); wolf head;
D7	F/ bird (or birds); dog face or head; eagle;
D8	F- sharkfin;
D9	F/ dog face or head;
Dd 22	F- dress; knees; letter "M";
Dd 23	F- raindrops;
Dd 24	F/ bell;
Dd 25	F/ face (human);
Dd 29	F- shoes;
Dd 30	F/ eyes (animal);
	F- handle (gun) 2;
Dd 36	F- man
Dd 37	F/ cat face;
Dd 40	F/ bat;
Dd 42	F/ butterfly; man (with wings);
	F- deer; lion;

TABLE I - - Continued

FIGURE II

W

F/ bear; boy (or boys); butterfly; cat face; clown; explosion; Indian; man; moth; people; witch; women;

F- animal 3,1; cat; chicken; Xmas tree; cloud; crab; landscape 3; man 3; pig (head);

D1

F/ animal; animal head; animal skin; ants; bear; bear, baby; bear rug or skin; animal body; buttes (western); centaur; cow face or head; dog 1; dog face or head; elephant; horse (or horse face); man; puppy 2; rabbit 2; rocks; person

F- cloud; dog face or head 2; ear (human); fire; kittens; rabbit head; stomach; tire track; volcano; wood;

D2

F/ animal; bird (or birds); blood 1,3; butterfly; cat; chicken; dog 1,2; face (human); feet (human) 1,3; fire; foot (human); hand (person's) 1,3; hat (witches); head (man); man; men; peninsula; person's head; profile (man); rabbit; seal(animal or seals); socks 3; stocking 2,1; thumb 3; witch face; woman (or women); person;

F- bacon; bird 3,1; dog face or head; eagle; flower; horse (or horse face); leaf; legs (human); map (of Florida); rooster; shoes; snake; sunset; horns; kangaroo;

D3

F/ blood; bomb 3,1; butterfly; explosion 3,1; fire; firecracker; fireworks; moth; sun; sunset 3,1;

F- bull; feet (animal); flower; heart; horse-shoe crab; lava 3; light beacon; lightning; lungs; moon 3; sea-shell 3,1; tongue;

D4

F/ animal head; arrow head 3; bird beak; bridge; hand (person's); house; paint; spear; temple; totem pole; tower; tree; building;

F- bird (or birds); book-ends; crow's head; face (human); fish; goat head; mountain peak; ribs; soldiers; stick; tassels; tent;

TABLE I -- Continued

D5	F/ hole; jet plane; lake; rocket ship 3,1; top (toy);
	F- animal head; bear, baby; bell; bladder; cat face; butterfly; fish (flying); horse (or horse face); mouth; stick; stomach; tooth; emblem;
D6	F/ bear; butterfly; cat face; dog; men; people; person's; wings;
	F- crab 3; donkey head; eagle; elephant; frog 2; grass; house; sunset;
D7	F/ bear face or head; sheep head;
	F- cow face or head 2; duck;
Dd 21	F- bat;
Dd 22	F/ chicken head; dog 3; feet (animal); man; rooster 2;
Dd 23	F/ head (man);
Dd 25	F/ icicle;
Dd 28	F- face (human);
Dd 30	F- eyes (human);
Dd 31	F/ baboon face; dog face or head 1,3,2,4; face (animal); face (human); gorilla head; monkey face; profile (man);
Dd 38	F/ animal; man;
	F- animal 2;
Dd 40	F- cat face;
Dd 43	F/ sunset 3; volcano 3;
Dd 45	F- cloud;

TABLE I - - Continued

FIGURE III

W	F/ clown 3; skeleton;
	F- bush; human face; flower arrangement; moles 3;
D1	F/ bird (or birds); boys (or boy); chicken; girls; goblin; Indian; man; men; monkey; native; people; Person's; skeleton 1,3; witch; woman (or women); person;
	F- animal; bear face or head; bug; crab; frog; road 3; sheep;
D2	F/ animal 1,2; bird (or birds) 1,3,2; blood; boy (or boys); cat 2; chicken; dog 2; dolls; elves; face, human; fire 1,3; fireworks; flower; fox (fox face); girl; goose 2; hawk; man 3; monkey 3,1,2; ornament 3; rooster; shrubs 3; stomach; string (ball of); tassels; turkey head 2; wolf (or wolves) 3; lion 2; tree 3;
	F- bear; bee face; bomb; butterfly; camel (camel face); cloud; club (war) 3; feet (human); horse face; intestine; lake; lung; map; objects; rats 1,2; snail 2; squirrel; tree 1; water; worm; lion 2;
D3	F/ blood; bone; bow; bow-tie; butterfly 1,3; lungs; moth; ribbon; tie;
	F- bird (or birds); bull; dog; dove; ear muffs; face (human); fireworks; flower; heart; nose; tonsils; tree;
D4	F/ buffalo 3; tree 3;
	F- eagle; sea horse;
D5	F/ arms 3,2; branches 3,1; fish 3,1,2; feet, human; foot, human 3; horse leg; legs (human); tree limb or branch; twig; wood;
	F- arms 2;

TABLE I - - Continued

D6	F/ bird head; chicken head; dog (face or head); duck; face (human); grass; person's head;
	F- goat; house; reptile head;
D7	F/ monkey face; pan; pot; chest 3,1; ribs; skeleton 3; skeleton head; stalagtites 2; tree 3; washtub; X-ray; chest 3;
	F- animal 2; ants; beetle 3; men; nose; owl face 3; skeleton; spider face 3; teeth; trap; vest;
D8	F/ creature; crab;
	F- bell; butterfly; mouth; tower;
D9	F/ man;
	F- animal; ghost head; horse (or horse face); man with wings; monkey; tree; woman (or women);
D10	F/ deer (feet); foot (animal); shoes;
D11	F/ duck; man;
	F- chicken; dog; frog; grass 3; moss;
Dd 21	F- gorilla head;
Dd 22	F- turkey head;
Dd 25	F- fingers 3; head (lady's); man;
Dd 27	F- people;
Dd 29	F- bird (or birds); dog 2; duck 2; heart 1,2; rooster 2;
Dd 30	F- arms;
Dd 38	F- cave;
Dd 39	F/ body (human) 3; crab; frog 3; Negroes 3;
	F- bird (or birds) 3; cow (face or head) 1,3; face (animal); face (human) 3,1; frog, gateway 3; head (man) 3; mask (Halloween); monkey 3; rocks 3; spider 3;

TABLE I - - Continued

Dd 40	F- cat; mouth 3;
Dd 42	F/ boy (or boys);
	F- face (animal);
Dd 43	F- cat face 3;

TABLE I - - Continued

FIGURE IV

W

F/ animal 1,3; animal skin; bat 1,3; bear; bear rug or skin; bird 1,3; bush; butterfly 1,3; clown; flower; giant; gorilla; man; monkey; monster; owl 3; plant 3; polecat; scarecrow; tree 1,3; warthog; weeping-willow; X-ray chest;

F- armor 1; bee 3; bug; buzzard; crab; door; fish; fly; house; owl 1; plant; spider 1,3; squirrel; sting-ray; tortoise shell 3;

D1

F/ animal 3; animal head 1,3; animal skin; bug 1,3; bull; caterpillar 3; cow (face or head) 1,3; fire fish; fish; goat head 3; heater; insect head 1,3; owl 3; spine; tree; tree stump 1,3; worm; tail of animal;

F- bear; bone; donkey head; feet (human); fish skeleton); insect; map; puddle; ribs; snake; snail; turtle (or turtle head) 3; vegetable 3;

D2

F/ dog 1,2;

F- dog (face or head); ground, rocky 2; saw;

D3

F/ animal head; bear (face or head); bull; butterfly 1,3; cat face; chipmunk face; dog (face or head); face (animal); face (human); face (Martian); flower; rose; sheep head;

F- frog; hat (witches); men; sea shell; shell conch; tail of animal;

D4

F/ alligator head; arms; crane 2,1; duck 2; ears, animal; goose head and neck 1,2; handles, rattlesnake; roots 2; snake 1,3,2,4; swan head and neck 1,2; horns; tail of animal;

F- animal head 2; bat 3; dog ears; ear human; flower; legs (human); wings; man 2;

D5

F/ backbone; caterpillar 3,1; chicken backbone; spine; tree; tree stump; water; worm 3;

F- alligator; bone; Chinese emblem; fish; fish skeleton; lamp; rocket ship;

TABLE I - - Continued

D6	F/ boot; camel or camel face 3; feet (human); foot (human); legs (human); mountain peak; shoes 1,3; wings 1,3; woman (or women) 3;
	F- face (human); map (of Florida) 2;
D7	F/ girl; seals (animal or seal) 2;
	F- face (human) 3; volcano 3;
D8	F/ dog face or head 1,2; pig head 2; sheep 3,1; animal 2; animal head 2; dog;
	F- seal (or seals); sheep 2;
Dd 26	F- tonsils;
Dd 28	F/ horns;
Dd 29	F- arrow head 2; hole;
Dd 31 (Herts)	F- animal; giant;
Dd 37	F/ animal; animal skin; ape; bear; body (human) clown; giant; gorilla; man; monkey; monster; octopus; squirrel skin; tramp; witch; person;
	F- frog; man 3;
Dd 38	F- harp;
Dd 40	F- animal skin; bat 3; bear (or bear rug); body (human); toad 3;
Dd 42	F/ bat; man; person;

TABLE I - - Continued

FIGURE V

W

F/ bat 3,1; bridge; butterfly 1,3; butterfly (swallow-tail); eagle; bird; gull 2; insect; man (with wings); mountain; moth 1,3; rabbit (with wings);

F- animal 2; beetle; chicken; donkey; forest; horse and rider flying; mosquito; rabbit; reindeer; ribbon; water;

D1

F/ alligator head; bone; feet (animal); hog leg; chicken leg 1,2; leg (human) 1,2; leg (stool) 2; turkey drumstick; animal leg 1,2;

F- alligator mouth; hand (person's);

D2

F/ legs (human); people; rabbit ears; stocking 3;

F- feet (animal); rabbit head;

D3

F/ duck bill 2; legs (human); snake 3; butterfly (feelers and back); animal leg;

F- Hawk 2;

D4

F/ animal; face (human); man; profile (man); wings;

F- arms 3; bird (or birds) 1,2; bull; bush; cloud; eagle 2; gorilla head; land; legs (human); rabbit; roots; shrubs; tree;

D5

F- animal head; rabbit head;

D6

F/ alligator head 2; animal head; bunnies; face (human); grass; person's head; rabbit; rabbit head; silhouette; snail head;

F- policeman;

D7

F/ body (human); boogy man; donkey; man; rabbit; woman (or women); butterfly (feelers and back); moth's body;

F- body (human) 3; grasshopper; rabbit head; snail;

TABLE I - - Continued

D8	F/ legs (human) 1,3; sling shot;
D9	F/ bird beak; bird head 2; eagle head 2; feet (human); girl; legs (human);
	F- bird (or birds) 2; buds 3;
D10	F/ alligator 2; alligator head 1,2; alligator mouth 1,2; bird beak; crocodile; duck bill 2;
	F- hand (person's) 3; mouth 2;
D11	F/ face (human) 1,2;
	F- lion 1; mouth 2;
Dd 23	F/ head (man);
Dd 25	F- face (human) 2;
Dd 27	F- bird beak; butterfly (tail pieces);
Dd 28	F- butterfly;
Dd 29	F- pigtail (hair);
Dd 37	F/ butterfly;

TABLE I - - Continued

FIGURE VI

W	F/ animal; animal skin; bear rug or skin; dragon; fly; flower 3; map; oil or oil well; scarecrow 3; sting ray 3; tiger skin 1; tree 3; turtle or turtle head; volcano;
	F- bone; brush 3; cat; dog; fish; jet plane; rocket ship 3; sea; spider; stone; tree; witch 3;
D1	F/ animal skin 1,3,2,4; bear; bear (rug or skin) 1,3; boxers 3; bug; cliff 2; coon (or coon skin); girls 3; hide (animal); map; people 3; wolves or wolf; person 3;
	F- amoeba 3; cloud; fish; frog; man; puddle; snowflake; stomach; turtle (or turtle head); wings;
D2	F/ backbone; bed post; chair leg; club; leg stool; pole; snake 3,1; statue (person); male sex organ;
	F- scorpions; seals (animal or seal);
D3	F/ bee; bird (or birds); bird wing; butterfly; butterfly wings; cat; cat face; cat whiskers; feathers; fire 3; flower; insect; mosquito or mosquito hawk; moth; owl; turtle head; wings;
	F- dog; explosion; fox or fox face; mouse; moustache; sea shell; spider face 3; spot;
D4	F/ dog (face or head) 3; hills; rocks; steamboat 2;
	F- bird (or birds) 2; cloud 1,2;
D6	F/ feathers; wings;
D7	F/ insect head;
	F- apple; snake;
D8	F/ club (war); cross; flag; insect; lighthouse; man; owl; totem pole; tree; tree stump; turtle (or turtle head); male sex organ;
	F- fish 1,3; fish (flying); flag post; giraffe head; pole; telephone pole;

TABLE I - - Continued

D9	F/ dog 1,2; dog face or head 2; feet, animal; snake; water; animal leg;
	F- bear (baby) 2; duck 2; face (human) 2; feet (human); girl 2; horse or horse face; map (of Florida) 2;
D10	F- insect head;
D11	F- seed
D12	F- backbone; road 3;
Dd 21	F/ bird (or birds) 3; claws or lobster claws 3,1; eagle 3; hooks;
	F- beetle; beetle head 3; bird beak 3;
Dd 24	F/ crab 3;
Dd 25	F/ statue (person);
	F- animal head 3; feet (animal); fingers; snake 2; animal leg;
Dd 26	F/ cat whiskers;
	F- bug; cat face; feet (animal); fish skeleton;
Dd 28	F/ horns (devil) 3; worm; horns;
	F- teeth;
Dd 29	F/ face (human)
Dd 30	F- crab 3; lily; mouth;
Dd 31	F- caterpillar; chipmunk; rabbit; tonsils 3; wolves (or wolf);
Dd 38	F- animal 2; bear 3; cow face or head 2; giant 2; mountain 2; ray gun; snail 2;
Dd 40	F/ totem pole;
	F- person 3;
Dd 42	F- cat; chicken; eagle;

TABLE I - - Continued

FIGURE VII

W	F/	Bunnies; cloud 1,3; cove 3; dog; girls 1,3; house 3; ice; islands 3; map; people; rabbit; stone 3; woman (or women) 1,3; emblem;
	F-	animal skin 3; cat; chair 3; cow (face or head); crown 3; donkey; donkeys; elephant; lamb; snake; turtle (or turtle head); world 3;
D1	F/	animal; animal head; baby face or head; bear face or head 2; cloud; dog; dog face or head; dog (Scotty); donkey head; elves; face (human); girl; girls 3; head (lady); idol; Indian; man; people; person's head; "pickaninny head"; rabbit head; women (or woman);
	F-	backbone; bird (or birds) 3; chicken; lamb; leaf; rabbit; sheep; animal leg; frog legs 3;
D2	F/	angel; animal; boy (or boys); demon; dog 1,3,2,4; dog face or head 1; doll (paper also) 3; dwarf; elephant 1,3; elves; girl 1,3; girls 3; Indian; map 1,2; people 3; puppy; rabbit; teddy bear; women (or woman) 1,3;
	F-	Camel or camel face 2; cat 2; chicken; donkey; donkeys; hog (half of) 3; horse or horse face; ice 3; sheep; sheep head; wolf (face); lion 3;
D3	F/	bear; body (human); cloud; clown; elephant 1,3; elephant head 1,3,2,4; face (human); head (lady's); head (man); profile (man); lion 2;
	F-	rooster 2;
D4	F/	bat; butterfly 1,3; cloud; insect 1,3; moth; prairie dog; rocks; stone;
	F-	belt; bone; book-ends; bricks; bush; chair-back 3; crown 3; fish; fly 3; forest; hat (witches) 3; house; mouth; puddle; sailor cap 1,3; shorts; sky; washtub; bag;

TABLE I - - Continued

D5	F/ ears (animal); feather; legs (human) 3; rabbit ears;
	F- arms; face (human); octopusleg; snake 2; animal leg;
D6	F/ house; water; waterfall; person 3; building;
	F- bowl 3; broom; butterfly 3; church; cow face or head 3; people; shove; snow 3; sting-ray; castle;
D7	F/ lamp 3;
	F- ball;
D8	F/ stalagmites;
	F- chicken 2;
D9	F/ dog; woman (or women) 3;
D10	F/ dog; dog (face or head) fox terrier (head);
	F- crab; kittens; pig head 3;
D11	F/ statue (person); water;
Dd 21	F/ dog feet or paw; hand (persons); tail of animal;
	F- caterpillar; dog (feet or paw) 1,2; turtle (or turtle head); animal leg;
Dd 24	F- face (human) 3;
Dd 25	F- eagle (head 3; light beacon;
Dd 26	F/ waterfall; worm;
	F- alligator; belt; bird or birds; body (human) 3; icicle; lizard; statue (person); tree;
Dd 27	F- grasshopper;
Dd 40	F/ map;
Dd 41	F- candle;
Dd 42	F- pig; sea shell;
Dd 43	F/ canyon 2;

TABLE I - - Continued

FIGURE VIII

W F/ Chinese emblem; flower; painting; slide (scientific); emblem;

F- animal; bear; bird; cave 3; coon (or coon skin) 1,2; crab 2; dog; face (human) jack-o-lantern; merry-go-round; rocks; snow flake; tulip 3; underwater scene; witch;

D1 F/ animal 1,2,4; bear 1,2; bear, Polar; beaver 1,2; cat 1,2; coon (or coon skin) 1,2; dog 1,2; fog or fox face; hyena; lizard 2,1; monkey; mouse 1,2; pig; rabbit; rats 1,2; squirrel 1,2; wildcat 1,2; wolves, or wolf; lion 1,2; tiger 1,2;

F- bee; crab 3; dragon; ear (human) 3; frog; possum; roach; scorpions; seal (animal or seal); porcupine;

D2 F/ blouse; butterfly 1,3,4,2; cave 1,3; coat 3; fire; flower 1,3; ice-cream; jewel; mountain 1,2; ornament (Xmas tree); pansy; rocks; stone;

F- animal 2; animal skin; candy; chest 3; cloud 1,3; explosion; gems; hog (half of) 3; jelly fish 3; lungs 1,3; mouth; painting; sheep 3; volcano; persons back 3;

D3 F/ bone; chest 3,1; ribs; skeleton; skeleton (breast);

F- animal; blouse; body (human); cow face or head; face (human); fish skeleton; lily; heel;

D4 F/ bush; butterfly; hat (Chinese); mountain; tree; tree top; wolves or wolf; roof;

F- animal skin; camel or camel face 2; cow face or head; jet plane; mask (Halloween); persons; rocket-ship; shoulders; person;

D5 F/ goat (head);

F- bat; face (human) 2; flower; girdle; grass; head (man) 2; paper; ship (prow, front of); tooth;

TABLE I - - Continued

D6	F/ frog 2; mountain peak;
	F- fire; heart;
D7	F/ mountain; rocks; sea creature;
	F- duck 2; fire; heart 3; reflection, as on water;
D8	F/ Christmas tree; mountain; rocket ship; tree; witch face;
	F- bear; buzzard; church; grass; house; Indian (face); jet plane; picture; plant; ribs 3; scarecrow; ship; ship (seal or sailship); skeleton 3; steer (longhorn) 3; tree 3; wolf (face); wolves (or wolf);
Dd 22	F/ arms;
Dd 23	F- flower stem; roach; waterfall;
Dd 24	F/ legs (human) 3; people; woman (or women); castle;
	F- firecracker;
Dd 26	F/ dog 2;
	F- judge's head (person) 3; skeleton (head); statue (person) 2;
Dd 27	F- arrow-head 2; lamppost lights 3; stalactities;
Dd 29	F- bell; lamp-post and lights 3;
Dd 30	F/ backbone 3,1; line; spear; spine; stick 3;
	F- drill; snake; tree;
Dd 32	F- alligator;
Dd 38	F- animal 2; coon or coonskin 2;
Dd 42	F- lion 2;

TABLE I - - Continued

FIGURE IX

W

F/ cloud; flower; landscape; painting; volcano 3;

F- butterfly; human face; insect; reflection (as on water) 2; teddy bear; throat; water 3; stand;

D1

F/ bear 2; boy (or boys) 1,3; buffalo; bush; cloud; cow face or head; face (human); flower; girls 3; gorilla; lake 3; leaves 1,3; man 1,2; map; mountain 1; persons; 2; pig 1,2; profile (man); tree; water 1,3; witch; witch face; woman (or women) 1,2; person 1,2;

F- alligator 2; bug 3; butterfly wings; cape; chicken; dog 1,2; elephant; grass; haystack 2; head (man) 1,2; house; tree 1,2; underwater flowers; volcano 3;

D2

F/ alligator 2; alligator head 2; animal 2; animal head 1,2; camel face or head 1,3,4,2; cow face or head 2; crocodile 2; deer head 1,2; dog face or head; face (animal) 1,2; reindeer 2;

F- cat face; chicken head 2; eyes (animal) 2; sheep head 2;

D3

F/ angel; animal; bird (or birds) 3; boy (or boys); carrot 3; clown; deer; fire; goblin; head (man); man; map; men; moose (head); people; reindeer; sunset; tree; witch; person;

F- bacon 2; bear; chicken; cloud; dress; eyes (human); flower; fountain; hat (witches); peacock 3; person's head; pig; ship (ship sail, or sail) 2; skeleton; watermelon; whale 2; witch 3; wolves or wolf;

D4

F/ baby (face or head) 1,2; boy (or boys) 1,2; face (human) 1,2; head (boys); head (man) 1,3,4,2; Lord 2; man 1,2; person's head 2; child's head or boy's head 1,2;

F- buffalo; hand (person's); person from hip down 2; seal (animal or seal) 2; tree 3;

D5

F- church; road 2; stick;

TABLE I - - Continued

D6	F/ blouse 1,3; bomb 3; cloud 1,3; explosion 1,3; flower 1,3; rocks; rose 1,3; tree 3; tree top 3;
	F- bird (or birds) 3; blood 1,3; butterfly; canyon 3; caterpillar 3; fire; fountain 3; moon; moose head 3; ostrich plumes 3; sky 3; sting-ray 3; teeth 3; umbrella; worm 3;
D7	F/ antlers; claws or lobster claws; crab pincers; hand (person's); tree limb (or branch);
	F- boot; bridge; cow (face or head); crab; deer; feet (animal); snail; spider;
D8	F/ canyon; dress; fountain 1,3; glass dish; tunnel 3; water 1,2; waterfall 3; geyser;
	F- body (human); butterfly scale; cloud; horse face or head; lagoon; rainbow; male sex organ; pearl;
D10	F- heart 3;
Dd 21	F/ hand (person's);
Dd 22	F/ animal head 1,3; cave; face (animal); face (human); ghost (head); head (man); 3; jack-o-lantern 3; owl; owl face 3;
	F- fish; nose; stone; lion;
Dd 23	F/ flower stem;
	F- tree;
Dd 24	F/ dog face or head; man 2; woman (or women);
Dd 26	F/ boat;
	F- foot (human);
Dd 28	F- alligator 2; camel or camel face 2; cat face;
Dd 29	F- landscape;
Dd 30	F- flower; man; spine;
Dd 40	F/ cave; scene

TABLE I - - Continued

F- butterfly; insignia (U.S. emblem);

Dd 45 F- sky;

TABLE I - - Continued

FIGURE X

W	F+ bouquet 3; design; fireworks 1,2; flower 3; flowers; painting;
	F- animal; bush; face (human); Fourth of July;
D1	F+ animal; beetle; bug; crab; fern 2; flower 1,3; flowers 1,3; lobster; octopus; roots 3; scorpions; spider 1,3,2,4; starfish; water; water plant; web;
	F- bone; butterfly; deer; dragon; firecracker; fireworks; horse or horse face; horse and rider; flying; leaf 1,3; nest; ornament; people; star; tree; porcupine 2;
D2	F+ bird (or birds); dog; dog (face or head); flower; seals (animal or seal); sun; lion;
	F- animal head 2; butter; chicken; mermaid; snail 1,3; witch 2;
D3	F+ buds 1,3; butterfly; man 3; pinecone seed 3; seed; wishbone 1,3;
	F- acorns; bee; bone; chicken 1,3; eyes (animal) 1,3; eyes (human) 3; sling 3; letter "V" 3; whiskbroom; worm 3;
D4	F+ caterpillar 1,3; devil; insect 3; sea-horse 1,3; snake 1,3,2,4; worm 1,3,4,2;
	F- animal; bee; clipper (hedge trimmers) 3; moustache; post; smoke; turkey head 3; stuff
D5	F+ grasshopper; man 3; paratrooper 3; rabbit; rabbit head;
	F- animal; caterpillar; dog (face or head); donkey head; eyes (animal); frog; goat head; gopher; house; insect head; pliers 3;
D6	F+ bird (or birds); boy (or boys); bridge 3; butterfly 3,1; chicken 3; duck; elephant; elephant head 3; hip bone 3; men 3; people 3,1; woman (or women); person 3;

TABLE I - - Continued

F- bat; bee; bow-tie; camel or camel face 3; cloud 3; crab 3; dog 2; fish 3; hooks 3; liver; tooth; water;

D7 F/ animal; ants 2; bug 1,3; crab 1,3; deer; frog; mouse; rats 1,2; reindeer 1,2; turtle head;

F- acrobats; alligator; cow (face or head); cucumber; deer 2; duck; flower; frog 2; goat; horse or horse face; leaf; lizard 3; sea creature; spider 3;

D8 F/ animal; ants; beetle; bug 3,1; crab 3,1; creature; face (animal); Indian; insect; lizard; men; people (cartoon-like); person's head; rats; sea creature;

F- bee; butterfly; goat; monkey; people 3; turkey head 2;

D9 F/ canyon 3; caterpillar 1,2; cliff; cloud; coral; creatures; flower 3; genie; map; mountain 1,3,2; persons; pixies; sea horse; snake; worm 1,2;

F- animal 3; bush; cow face or head; fish 3; grasshopper; intestine; leaves 3; legs (human); map (of Florida); profile (man) 3; tree 1,3; underwater flowers; water; paint;

D10 F/ animal; clippers (hedge trimmers) 3; decorations (for a float); paratrooper 3; pliers 3; rabbit; castle;

F- bee; bird (or birds) 3; butterfly; door 1,3; elves 3; gateway; heart; mountain 3; rabbit head; still (liquor); tree 3; man 3; wishbone;

D11 F/ animal; beaver; bone; derrick; Eiffel tower; flower stem 3; lamp; spine; tree 1,3; helmet;

F- bug; camel or camel face; chest; crab; crab pincers 3; elves; girl; goat; heater; heart; horse or horse face; lobster 3; neck (human); owl; roots; saw; stone; tree stump or trunk 1,3; male sex organ 3; chimney; tracks (animal) 3;

D12 F/ bull; leaf; leaves 1,3;

TABLE I - - Continued

	F- animal; bug; cat 3; frog; lobster; tree limb or branch;
D13	F/ animal 2; beaver; buffalo; dog 1,2; dog (Collie) 2; leaf; puppu 2; lion 1,2;
	F- animal head 2; bee 3; bird (or birds) 2; chicken; cloud; duck 2; guinea pig; moles; penguin 2; ram; rats; snail 1,2; sunset 2;
D14	F/ plant stem; pole; post; stick 1,3; tree; tree stump;
	F- backbone 3; bone; handles 2; spine 3;
D15	F/ bird; flower; map (of Florida) 1,2; buds;
	F- animal; bird 3,2; fish; flag; map (of Florida) 3; sun;
Dd 25	F/ face (human); head (man);
	F- animal head; donkey head; owl;
Dd 29	F/ face (human);
Dd 30	F- skeleton 3;
Dd 34	F- cow (face or head) 3,1; tooth 3;
Dd 44	F/ flower 3;
	F- butterfly; face (human); rocket ship; tree 3;

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BIOGRAPHICAL ITEMS

Arthur Cooper Price was born in Sebring, Florida, January 1, 1918. He graduated from Henry B. Plant High School in Tampa, Florida. From 1941 through 1945 he served with the United States Air Force in this country, England, France, and Belgium.

In February, 1946, he entered Furman University, and he received the Bachelor of Arts degree Magna Cum Laude, in August, 1948, with a major in Psychology.

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The author's memberships include Phi Kappa Phi, Alpha Kappa Delta, and Phi Omega Sigma honorary scholastic fraternities. He is a member of Quaternion Leadership Fraternity. A Graduate Fellowship was held for three years at the University of Florida. He is a member of Who's Who in American Colleges and Universities.

The author served as President of Theta Chi Fraternity at Furman University, and also as chairman of the Inter-Fraternity Council. Student government activities included membership in the Student Legislature and chairmanship of the President's cabinet.

The author is an associate member of the American Psychological Association, Florida Psychological Association, and a member of the American Personnel Association.

This disseration was prepared under the direction of the chairman of the candidate's supervisory committee and has been approved by all members of the committee. It was submitted to the Dean of the College of Arts and Sciences and to the Graduate Council and was approved as partial fulfillment of the requirements for the degree of Doctor of Philosophy.

August 10, 1953

C. T. Byron
Dean of College of Arts and Sciences

R. E. Gruter
Dean, Graduate School

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